Lesson 1

The Alphabet and the Sound System

❖ 1.1 The Tibetan Alphabet

1.1.1 The Alphabet

The invention of the Tibetan alphabet is credited to Thon-mi Sambhota (ཐོན་མི་སམ་བྷོ་ཊ།), a scholar and minister who served under the reign of King Srong bTasn sGam Po (སྲོང་བཙན་སྒམ་པོ།) in the seventh century. Modeled after Brahmi writing, the Tibetan alphabet consists of 30 letters and 4 vowel diacritics. The basic unit of writing is the syllable and not the word.

In the traditional alphabet chart, letters are arranged, in principle, according to their place of articulation (in rows) and manner of articulation (in columns). In the last three rows, the rationale for the arrangement becomes less apparent. For example, the letters ཞ and ཟ of the sixth row, which behave similarly to the third-column letters in the previous five rows, are placed elsewhere. That said, it is important to memorize the order of the alphabet as all Tibetan dictionaries list lexical entries in that order.

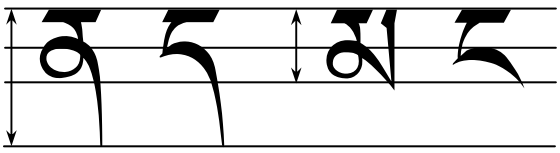
In the following chart of the Tibetan alphabet, the standard Latin transcription (SLT), which is the spelling adopted by scholars to transcribe literary Tibetan, and the phonetic transcription of the Lhasa dialect are both given for each letter, with the SLT followed by the phonetic transcription of the Lhasa dialect in brackets. For example, the letter ཀ is transcribed as ga [k^{h}a], "ga" being the SLT and [k^{h}a] being the phonetic transcription. To the upper right of each letter, one finds a tonal notation of either LL or HH. They represent the tone associated with each consonant. We will introduce tones in section 1.2. For a precise description of the phonetic symbols adopted in this book, please see the explanations in section 1.3.1. The use of the four vowel diacritics at the lower right corner of the chart will be explained in 1.3.4.

Column I		Column II		Column III		Column IV	
ka [ka]	HH	kha [k^{h}a]	HH	ga [k^{h}a]	LL	nga [nga]	LL
ca [ca]	HH	cha [c^{h}a]	HH	ja [c^{h}a]	LL	nya [nya]	LL
ta [ta]	HH	tha [t^{h}a]	HH	da [t^{h}a]	LL	na [na]	LL
pa [pa]	HH	pha [p^{h}a]	HH	ba [p^{h}a]	LL	ma [ma]	LL
tsa [tsa]	HH	tsha [ts^{h}a]	HH	dza [ts^{h}a]	LL	wa [wa]	LL
zha [sha]	LL	za [sa]	LL	'a [a]	LL	ya [ya]	LL
ra [ra]	LL	la [la]	LL	sha [sha]	HH	sa [sa]	HH
ha [ha]	HH	a [a]	HH				

Chart 1.1 The Tibetan Alphabet

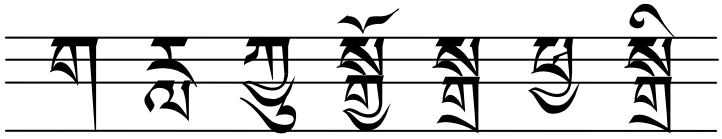
1.1.2 Writing (Stroke Order) of the Alphabet

There are two things to note about the writing of Tibetan letters. First, the "base" line of the letters is at the top. All letters are lined-up downwards from that base line. Second, all letters are not of the same "height". As shown in the diagram below, ན and ད are almost twice as "high" as མ and ང.



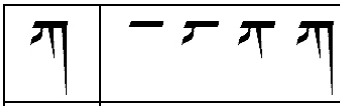
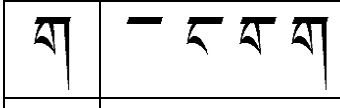
Letters that resemble ན and ད in height are called long-legged letters. Besides ན and ད, there are also ཀ, ཁ, ག, ཅ, ཏ, ཐ, ཧ, and ཧ: *ten* altogether. The rest of the letters

of the alphabet have about the same height as མ and ར. It is important to make this distinction, to avoid writing ཀ and ཏ too similarly. In Lesson 2, the learner will encounter stack-up (i.e., superjoined or subjoined) letters, where two or three letters are written vertically, one on top of the other. The stack-up letters have the same height, more or less, as a single long-legged letter, as shown below:

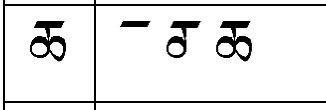
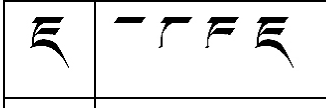
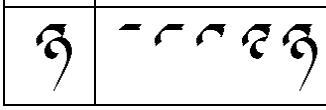


The following chart shows the standard calligraphic stroke order of the Tibetan alphabet, as taught in their elementary schools. Note that this is the correct stroke order when one intends to produce handwriting of an elaborate calligraphic quality. In casual handwriting, though, the rules loosen and the strokes are more fluid.

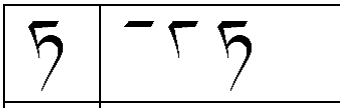
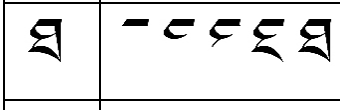
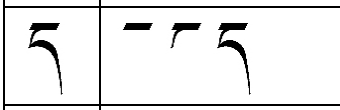
ཀ Row

ཀ	
ཁ	
ག	
ང	

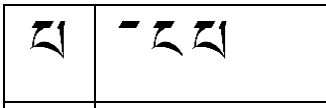
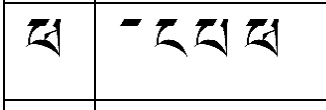
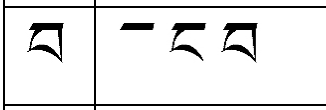
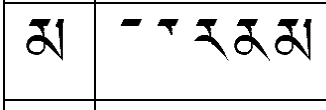
ཅ Row

ཅ	
ཆ	
ཇ	
ཉ	

ཏ Row

ཏ	
ཐ	
ད	
ན	

པ Row

པ	
ཕ	
བ	
མ	

ཅ Row

ཅ་	ཅ་ཅ་ཅུ་ཅ་
ཆ་	ཆ་ཆ་ཆ་
ཇ་	ཇ་ཇ་ཇ་
ཉ་	ཉ་ཉ་ཉ་

ཏ Row

ཏ་	ཏ་ཏ་ཏ་
ཐ་	ཐ་ཐ་
ད་	ད་ད་ད་
ན་	ན་ན་ན་

ཤ Row

ཤ་	ཤ་ཤ
ས་	ས་ས་ས་
ཧ་	ཧ་ཧ
ཨ་	ཨ་ཨ་

ཀ Row

ཀ་	ཀ་ཀ
ཨ་	ཨ་ཨ་ཨ་

vowel diacritics:

ཱ ི ུ ེ ོ

The style of the alphabet we introduce here is called *Wuchan* (དབུ་ཅན་). The style used in all printed material. In the U-Tsang region, elementary school children learn a different style called *Wumed* (དབུ་མེད་). Only in higher grades do they learn to read *Wuchan*, but at that time, they also learn to write in a cursive script called *Chu* (འཇུག). It is probably safe to say *Wuchan* is by far the most important and practical style to master in reading, if not also in writing.

When it comes to calligraphy as a traditional art, there are many more different styles (or rather sub-styles). See the cultural notes in Lesson 5 for a brief introduction to Tibetan calligraphy and some examples.

❖ 1.2 Lhasa Tibetan as a Tone Language

Most speakers of Indo-European languages (including English) are unfamiliar with the notion of tone and its use in a natural language. With more than half of the human population speaking a tone language natively (yes, speakers of non-tonal languages are actually in the minority), it is worthwhile to know the fundamental concepts of tones.

While some adult learners have the enviable ability to imitate tones with amazing accuracy just by hearing the word, it is the authors' observation that most learners cannot. The purpose of the discussion on tone is to provide to the majority of the readership important insights into the workings of tones. For learners of Lhasa Tibetan, this piece of linguistic knowledge is essential if they want to possess a natural and good accent.

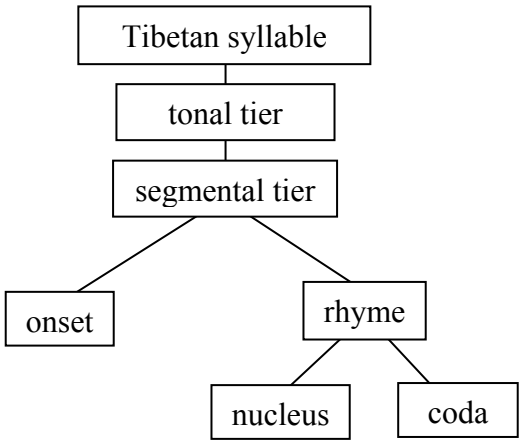
We will start with a number of universal properties regarding tones in general and then move on to an analysis of the tones in Lhasa Tibetan in light of these tonal universals.

1.2.1 Tone as an inalienable component of the syllable

Human speech employs change of pitch all the time. When a syllable starts with a lower pitch and ends with a higher pitch, one hears a "rising" pattern. In the following context of English, for example, the word *yes* can be pronounced with a rising pitch pattern to signify that Speaker B (John) is ready for Speaker A to ask a question: A: *John?* B: *Yes?* This is to contrast with the *yes* pronounced with a "falling" pitch change when a football fan yells out *Yes!* when watching his favorite running back score the winning touchdown in the last seconds of a game. The change of pitch is highly audible and an effective means to convey messages in human speech. The excitement conveyed in an emphatic "falling" *yes* is obvious to all native speakers of English.

In a tone language, the use of pitch, whether by sustaining the same pitch height for the entire syllable or by changing the pitch from high to low (i.e. falling) or low to high (i.e. rising), is an integral part of the pronunciation of that word/syllable. The pitch level or contour associated with the syllable in determining its meaning is tone. A syllable with a rising tone, for example, can only be pronounced as such regardless of the speaker's emotional state. (To show emotions or other pragmatic information, speakers of tone languages typically use other linguistic devices such as sentential particles and adverbs.)

Lhasa Tibetan is a tone language. Thus, the entirety of the pronunciation of a Tibetan syllable must be represented by two equally essential components: (i) the part that deals with sound segments such as consonants and vowels and (ii) the part that deals with the tone. Technically, the former component is called segmental tier, as it consists of sound segments. The latter, called the tonal tier, represents the distinct pitch pattern designated to each syllable.



The tone associated with a lexical item must be consciously remembered and clearly pronounced as one would the sound segments (consonants and vowels). Failure to pronounce the tone correctly is no less frustrating to the listener than, for another example drawn from English, the speaker's failure to distinguish the English vowels clearly or to keep the final consonants of a syllable. Imagine the difficulty for us to understand someone's speech when he pronounces *big*, *bit*, *beat*, *bees*, *beep*, etc. all as *be*. Occasionally, one finds books about Lhasa Tibetan that promote the idea to not learn the tones correctly but to resort to the discourse context to help convey the meaning. In response to this idea, the authors invite the reader to point at a book to an English speaker and say "*plays gave may they bake*" (intended: please give me the book.) or "*plee gee mee thee bee.*" The listener may understand the request perfectly, with the help of the gesture and the discourse context; but imagine the impression he has on the poor proficiency level of your English. Likewise, speaking a tone language without tones may present serious communication problems. Even though one's toneless utterances are understood (usually by great effort from the listener), the strangeness of the pronunciation simply reflects a poor command of the language. The defective nature becomes even more apparent in telephone conversations, when the listener is deprived of any visual aid from the linguistic or pragmatic environment.

This textbook recognizes the difficulty for English speakers to internalize tones as an inalienable component of the syllable but would like to emphasize that it is essential to learn the tones well if one expects to learn the language accurately from the very beginning. At the initial stage, spend time on practicing the pronunciation of the tones with the CD recording. The time will be well spent in acquiring a good accent.

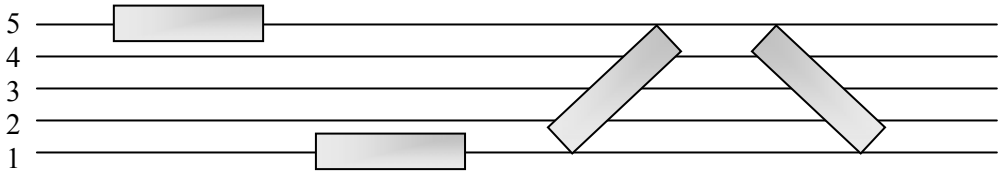
1.2.2 Basic Terminology: Pitch, Register, Level and Contour Tone

The rising or falling contour in pitch in the English word *yes* as we just discussed is called intonation, not a tone, for it is not a built-in part of the word *yes*. In a tone language, pronunciation of a syllable in a particular pitch pattern decides the meaning of that word in the same way as the vowel does in each of the English words such as *boat*, *but*, *boot*, *bate*, *bat*, *bet*, etc. The good news is, typically, there are far less tonal patterns than vowels in any human language.

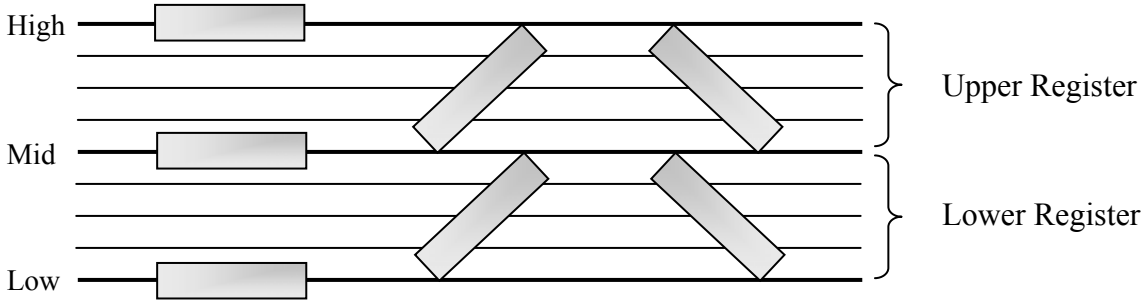
In order to function “tonally”, a tone language must at least have two tones at two different (contrasting) pitches: high and low. Without any change in pitch (i.e. the same pitch height is sustained for the duration of the syllable), there are two tones: HH and LL. The combination HH indicates the start-point (the first H) and the end-point (the second H) of the syllable; same for LL. These are called <u>level</u> tones. Most of the African tone languages operate on this simple two-tone (high vs. low) system. Asian tone languages typically have more than the said two level tones, but they all have these two basic tones in their tonal repertoire.

The pitch pattern of a syllable can also change from high to low or vice versa, creating two additional tones: rising and falling. Rising and falling tones are instances of simple <u>contour</u> tones (as opposed to level tones), which can be represented by LH (rising) and HL (falling), respectively. Theoretically, with only two contrasting pitches H and L in the system, a tone language can effectively (and with utmost economy) employ four tones that have the maximal contrasting shapes for easy differentiation by its speakers. Lhasa Tibetan is such a language. In other words, Lhasa Tibetan has these four tones, which are

most commonly seen and easy to distinguish: high level (HH), low level (LL), rising (LH), and falling (HL), as shown in the diagram below in the customary 1-5 pitch scale. (Think piano.)



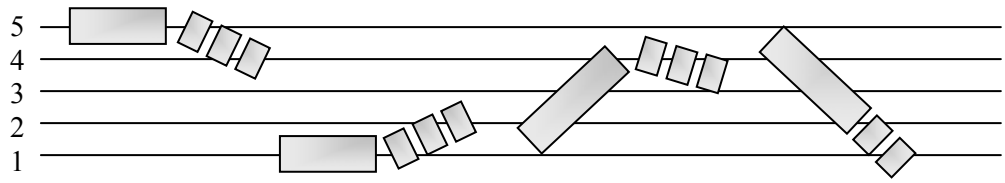
As a side note, in a more complicated tonal system, such as that of Taiwanese or Cantonese from the other branch of the Sino-Tibetan language family, there exist three level tones: high (HH), mid (MM), and low (LL). The existence of these three contrasting pitches allows the possibility of two kinds of falling tones, from high to mid (HM) or from mid to low (ML), as well as two rising tones, from low to mid (LM) and from mid to high (MH). This kind of system is described as having two different tonal registers, as shown below. Fortunately for us, Lhasa Tibetan has only one register, as discussed earlier. Sometimes the term "register" is used erroneously to refer to "pitch height" in Tibetan. Learners should not be confused by this misnomer.



1.2.3 Body and Tail of a Tone

The two-pitch-four-tone system described above for Lhasa Tibetan is the ideal phonological model. In the real world, when listening to the recording of the Tibetan alphabet, the learner will detect that the letters designated with the high level tone (HH) such as ཇ or ཟ sound slightly falling (54 or 53), instead of the perfectly level 55.

Likewise, the actual surface sound of letters of the low level tone (LL) such as ན or ལ shows an obvious rising shape (12 or 13) and not the expected level shape sustained at low pitch (11). This is because the syllables are being pronounced in isolation (i.e. without any following syllable) and, in pronouncing a syllable in isolation (*aka* the citation form), the vocal chords controlling the pitch height slacken towards the end of the utterance and create an unintended contour of the tone. The typical slackening of the pitch towards the end of the four tones pronounced in isolation is shown below by the dotted line.



The four tones pronounced in isolation

We may call this unintended (dotted) part "the tail" of the tone, as opposed to its main body. It is important to remember that the tail, which is clearly audible in a syllable's citation form, is not to be taken as part of the underlying tonal shape. The third tone in the diagram, for example, seems to have a rising-falling contour (pitch change: 1-3-2). Many Tibetan linguists describe this tone at its face value as a complex contour tone (rising then falling combined). The authors argue that it is best analyzed as a simple rising tone (with a falling tail in citation form, of course). The main evidence is that the determined climb from the beginning to the peak (the 1-3 climbing part) is both longer in duration (measured 3: 1 in length) against the 3-2 falling part and stronger in sound intensity than the dotted falling part. It also patterns with the falling tone in tone sandhi rules. Similarly, the second tone in the diagram, although customarily expressed in numerical notation as 12 or 113 if long, has a unmistakable flat (level) part before the pitch rises. This differs sharply from the determined climb observed in the third tone just mentioned. It is best analyzed as a low tone with a tail. Its tail, or the unintended rising part, can be explained by the following articulatory account. Produced fairly close to the bottom of a speaker's natural vocal range, a level low tone requires more effort from the speaker to sustain at that pitch height than any other tone. When pronouncing an isolated low-tone syllable, the vocal chords, after sustaining the low pitch for the initial duration, slacken and the pitch bounces up, rendering a more audible tail than that of other tones. In continued utterances, when a tone is followed by another tone, the unintended slackening does not happen and the tail does not show. For example, e.g. ཀུ in isolation is [ku]-54 or 53, with a falling tail; but in ཀུ་ཤ *apple*, ཀུ has a clean, sustained, high level tone [ku]-55. Similarly, ཉ in isolation is [nya]-12, with a rising tail; but in ཉ་ཤ *fish meat*, ཉ has a clean, sustained, low level tone [nya]-11. When listening to the recording of the exercises 1.5.3 and 1.5.4, one should immediately notice that the first syllable of any disyllabic word is pronounced with a clean-cut, tailless, sustained 11 or 55. This is when the true colors of the high and low level tones are seen, or more precisely, heard.

1.2.4 The Four Lexical Tones in Lhasa Tibetan

Following the previous discussion of tones in general, we can consider Lhasa Tibetan to have developed a typical (simple yet complete) tonal system, which contains two constrasting pitches H and L (no mid level tone) and the logical, or logically allowed, four tones, namely, high level (HH), low level (LL), falling (HL), and rising (LH). All single letters are pronounced as level tones. The contour rising (LH) and falling (HL) tones evolved from level tones in syllables with suffixes in orthography. They will be discussed

in Lesson 3, where we focus on suffixes and their effects on the rhyme and the tonal shape of the syllable.

To help the learner acquire a habit to always treat the tone as an integral part of the pronunciation, the authors will notate the pronunciation of each word with a phonetic symbol that marks the tone of that syllable. The following tone marks mean exactly the same as the notation using H and L.

HH: ˉ LL: ˘ LH: ˊ HL: ˋ

Since the vowel is the actual tone-bearing unit of a syllable, we put the tone marks on the vowel of each syllable. Note that the low level tone is represented by "˘" for two reasons. First, the level marker "¯" is already used for the high tone HH. Second, the tail of the low tone, when overt, does have a salient rising contour (12 or 113). Remember, however, when followed by another syllable, the tail of the low tone is truncated and the true low level tone (11) should be pronounced.

Given the tone marks, the first row of the alphabet can be notated as ཀ [kā], ཁ [k^{h}ā], ག [k^{h}ă], and ང [ngă], instead of the cumbersome ཀ [ka]-HH, ཁ [k^{h}a]-HH, ག [k^{h}a]-LL, and ང [nga]-LL. Some learners with sensitive listening ability may be able to hear a difference in pitch height between the aspirated high ཁ [k^{h}ā] (starts at 5) and the non-aspirated ཀ [kā] (starts slightly lower at 4). This impression is accurate. Indeed, aspirated stops and affricates [p^{h}, t^{h}, k^{h}, c^{h}, ts^{h}] do have a slight higher pitch (54 or 55) than the non-aspirated high toned [p, t, k, c, ts] (43 or 44). This acoustic difference is not phonologically significant. In a native speaker's mind (or to his ear), it is the same tone: HH.

❖ 1.3 Writing System vs. Sound System

English has a rather rich inventory of vowels. There are twelve altogether (e.g. *b<u>ea</u>t, b<u>i</u>t, b<u>ai</u>t, b<u>e</u>t, b<u>a</u>t, b<u>a</u>r, b<u>ou</u>ght, b<u>oa</u>t, b<u>u</u>t, b<u>oo</u>t, p<u>u</u>t, <u>a</u>top*), not counting the three diphthongs (*ab<u>ou</u>t, b<u>i</u>te, b<u>oy</u>*) Yet, when asked about the number of vowels of the language, many native English speakers would say five (*a, e, i, o ,u*), or five and a half, counting *y* in. The discrepancy in number (5, as opposed to the actual 12) comes from a common confusion between the sound system of a language, which contains consonants and vowels, and the writing system that is a set of symbols used to represent those sounds. In other words, the letters in the alphabet are merely symbols, not sounds themselves. Ideally, an alphabetical writing system is supposed to phonetically represent the sound in an unambiguous way. That is, one sound, one symbol (letter). However, due to all sorts of reasons, sound change through time for one, very few languages have that ideal one-to-one correspondence. In fact, English, for example, employs five letters in different combinations and phonological environment to represent a much larger number of vowel sounds. The situation is similar in various Tibetan dialects.

The Tibetan alphabet was designed (or standardized) in the seventh century and was believed at the time to represent the speech sounds in a one-to-one correspondence. Through gradual evolution of the sound system, among other parts of the grammar, Lhasa Tibetan spoken today has lost some consonants from old Tibetan (most notably the voiced

obstruents such as [b, d, g, z] etc.) and, in compensation, developed tones. Its inventory of vowels also grew from the original five to a richer group of eight. The spelling of words, however, changed little over time to fully reflect the new pronunciations, despite the three orthographic reforms that took place in the 7th to 8th century, the beginning of the 9th century, and the 11th to 13th century. What we have in hand today is an alphabet system of 30 letters and four vowel diacritics to represent the current Lhasa sound system of 25 consonantal sounds, 8 vocalic sounds, and a well developed tonal system of 4 distinct tones.

Fortunately, the sounds and the writing representing them are consistent, allowing almost no exceptions to the pronunciation. That is to say, one only needs to learn the rules in order to be able to read the Tibetan orthography in its current Lhasa pronunciation. The task of Lessons 1 to 4, thus, is mainly to teach the readers how to look at a Tibetan syllable and know immediately its pronunciation, with the correct tone, of course. The remainder of this lesson will simply highlight the important differences between the Tibetan orthography and the sound system of Lhasa Tibetan. The bulk of Lessons 2, 3, and 4 deal with rules that link the writing to the actual pronunciation.

1.3.1 Sound inventory of Lhasa Tibetan

The following chart is a complete inventory of contrastive consonants, 25 in total, in Lhasa Tibetan. Note that we treat the palatalized [ky] and [k^hy] as combined sounds. If included, they will make the inventory of Lhasa dialect consist of 27 consonants. Through historical evolution, syllable-final [k, t, s] are weakened to a glottal stop in some Lhasa Tibetan's speech and disappeared in others'. For the latter group, the phonological value of [ʔ] is replaced by the contour tone it produces. At any rate, the glottal stop [ʔ] is not a steady phoneme on equal footing with the others to warrant its inclusion in the chart.

manner / place	labial	alveolar	(alveo-) palatal	velar/glottal
stops	p, p^h	t, t^h	(ky, k^hy)	k, k^h
fricatives		s	sh	h
affricates		ts, ts^h	c, c^h	
retroflexes			tr, tr^h, sr	
nasals	m	n	ny	ng
liquids		l, , l^h	r	
glides			y	w

Chart 1.2 Complete Inventory of Consonants in Lhasa Tibetan

The diagram below shows the inventory of all contrastive vowels, 8 in total, in Lhasa Tibetan. We shall discuss the vowels in Lesson 3.

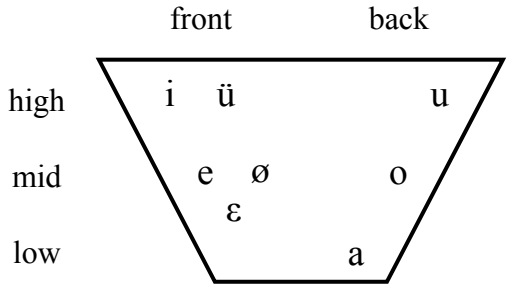


Chart 1.3 Complete Inventory of Vowels in Lhasa Tibetan

1.3.2 Consonants represented by single letters

Below is a detailed description of sounds (in Lhasa Tibetan) represented by single letters of the alphabet.

Letter	Sound Description	Adopted Phonetic Symbol	IPA Equivalent	Tone	Examples
ཀ	non-aspirated voiceless velar stop	k	k	HH	k in *sky* (English); c in *caro* (Spanish); *gao* 'tall' (Chinese)
ཁ	aspirated voiceless velar stop	k^h	k'	HH	c in *cake* (English), *kai* 'open' (Chinese)
ག	ཁ	k^h	k'	LL	identical to the sound of ཁ (different tone)
ང	velar nasal	ng	ŋ	LL	ng in *long* and *singer* (English), can appear syllable-initially
ཅ	non-aspirated alveo-palatal affricate	c	tɕ	HH	j in *jia* 'home' (Chinese)
ཆ	aspirated alveo-palatal affricate	c^h	tɕʼ	HH	q in *qi* 'seven' (Chinese), ch in *chair* (English) without [round] feature
ཇ	ཆ	c^h	tɕʼ	LL	identical to the sound of ཆ (different tone)
ཉ	palatal nasal	ny	ɲ	LL	ñ in *niño* (Spanish); gn in *oignon* (French)

ཏ	non-aspirated voiceless alveolar stop	t	t	HH	t in *sty* (English), t in *tener* (Spanish); d in *dai* 'to bring' (Chinese)
ཐ	aspirated voiceless alveolar stop	t^h	t'	HH	t in *tie* (English), t in *tai* 'too' (Chinese)
ད	ཐ	t^h	t'	LL	identical to the sound of ཐ (different tone)
ན	alveolar nasal	n	n	LL	n in *no* (English)
པ	non-aspirated voiceless bilabial stop	p	p	HH	p as in *spot* (English); p in *pan* 'bread' (Spanish); *bai* 'white' (Chinese),
ཕ	voiceless bilabial stop aspirated	p^h	p'	HH	p as in *pot* (English)
བ	ཕ	p^h	p'	LL	identical to the sound of ཕ (different tone)
མ	bilabial nasal	m	m	LL	m as in *my* (English)
ཙ	non-aspirated voiceless alveolar affricate	ts	ts	HH	z in *zou* 'go' (Chinese)
ཚ	aspirated voiceless alveolar affricate	ts^h	ts'	HH	z in *Zeit* (German), c in *ca* 'wipe' (Chinese), ts in *lets* (English), can appear syllable initially
ཛ	ཚ	ts^h	ts'	LL	identical to the sound of ཚ (different tone)
ཝ	labio-velar glide	w	w	LL	w in *way* (English)
ཤ	voiceless alveo-palatal fricative	sh	ɕ	LL	xia 'blind' (Chinese), sh in *she* (English) without [+round] feature
ས	voiceless alveolar fricative	s	s	LL	s in *sun* (English)

འ	no segmental phonetic value	(a)	(a)	LL	N/A (space-filler to carry the vowel diacritic)
ཡ	palatal glide	y	j	LL	y in *yes* (English)
ར	alveo-palatal retroflex liquid	r	ʐ / ɾ	LL	word initially, r in *rang* 'let' (Chinese), r in *red* (English) without [+round] feature
ལ	alveolar lateral liquid	l	l	LL	l in *let* (English)
ཤ	ཧ	sh	ɕ	HH	identical to the sound of ཧ (different tone)
ས	ཟ	s	s	HH	identical to the sound of ཟ (different tone)
ཧ	voiceless glottal fricative	h	h	HH	h as in *hello* (English)
ཨ	no segmental phonetic value	(a)	(a)	HH	N/A (space-filler to carry the vowel diacritic)

Chart 1.4 Sounds represented by individual letters

Among the 30 letters of the Tibetan alphabet, two (འ and ཨ) are used as "space fillers" in Tibetan orthography for onsetless syllables (i.e. syllables that begin with vowels). So, འ and ཨ do not actually have any consonantal (or any phonetic) value. That is, they are used for syllables without an initial consonant so that the vowel diacritic can be written above or under them like a regular syllable. འ, in addition, can be used as a prefix (representing a nasal sound) or suffix (no phonetic value). We will discuss these situations in Lessons 2 and 3, respectively. Of the remaining 28 letters, only 21 sounds, or phonemes, are represented, summarized in the consonant chart below.

	labial		alveolar		alveo- palatal		velar/glottal	
unaspirated stops	p	HH ཨ	t	HH ཏ			k	HH ཀ
		LL ?		LL ?				LL ?
aspirated stops	p^h	HH ཕ	t^h	HH ཐ			k^h	HH ཁ
		LL བ		LL ད				LL ག
fricatives			s	HH ས	sh	HH ཤ	h	HH ཧ
				LL ཟ		LL ཞ		LL ?
unaspirated affricates			ts	HH ཙ	c	HH ཅ		
				LL ?		LL ?		
aspirated affricates			ts^h	HH ཚ	c^h	HH ཆ		
				LL ཛ		LL ཇ		
nasals	m	HH ?	n	HH ?	ny	HH ?	ng	HH ?
		LL མ		LL ན		LL ཉ		LL ང
liquids			l	HH ?	r	HH ?		
				LL ལ		LL ར		
glides					y	HH ?	w	HH ?
						LL ཡ		LL ཝ

Chart 1.5 Tone-Consonants represented by single letters in Tibetan

Chart 1.4 shows the corresponding Tibetan letters for each sound (with a designated tone). Note that some consonants only have one tone associated with it, such as the unaspirated stops [p, t, k] and affricates [ts, c], both of which lack the low tone. Sonorant sounds, including the four nasals [m, n, ny, ng], the two liquids [l, r], and the two glides [y, w], all represent low tones, lacking the corresponding high tone. Indeed, more than half of the consonants have only one tone represented here. These missing tones, highlighted in the shaded areas in Chart 1.5, give a false impression that Lhasa Tibetan is not fully using the high-low tonal contrast with all its consonants, which would be a significant waste of its tonal capacity. In Lesson 2, we will see that with the combination of letters in the syllable initial position, all consonants do show the expected high-low contrast, with only a very small number of accidental gaps.

1.3.3 Additional consonants in the sound system

Compare the complete inventory of consonants listed in Chart 1.2 and the sounds represented by single letters of Chart 1.4, one immediately finds that these 21 sounds, in fact, are a subpart of the complete inventory of Tibetan consonants, which has a total number of 25. The 4 missing sounds that are not represented by individual letters in the previous chart are the three retroflexes [tr,tr^h, sr] and the aspirated lateral liquid [l^h].

In English, when certain letters are put together, the combination may represent new sounds such as *ch, sh, th*, etc. In Lhasa Tibetan, the situation is exactly the same. The three retroflexes [tr,tr^h, sr] are created by combining certain letters and the letter *ra* ར and the aspirated lateral [l^h] a combination of *la* ལ and *ha* ཧ. The peculiar writing of these combinations will be introduced in Lesson 2, where we introduce the writing of Tibetan syllables. For the time being, we will focus on the sounds themselves, which are described in the following chart.

Letter(s)	Sound Description	Adopted Phonetic Symbol	IPA equivalent	Tone	Examples
1st column stop + ར	non-aspirated voiceless alveolar retroflex	tr	tr	HH	zh in *zhidao* 'know' (Chinese)
2nd column stop + ར	aspirated voiceless alveolar retroflex	tr^h	tr'	HH	ch in *chi* 'eat' (Chinese)
3rd column stop + ར	aspirated voiceless alveolar retroflex	tr^h	tr'	LL	ch in *chi* 'eat' (Chinese)
ཤ	voiceless alveolar retroflex	sr	ʂ	HH	sh in *shi* 'teacher' (Chinese)
ལྷ	aspirated voiceless lateral fricative	l^h	ɬ	HH	no close equivalent in familiar languages; try pronounce [l] simultaneously with lots of air

Chart 1.6 Four sounds not represented by individual letters

1.3.4 The Vowels Represented by Vocalic Diacritics

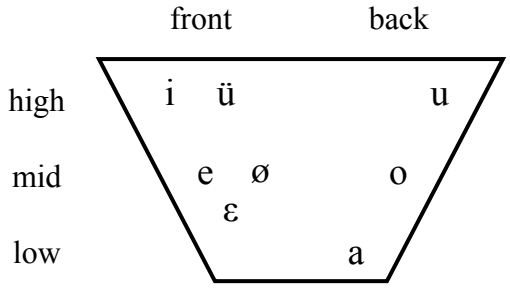
1.3.4.1. The Basic Five-Vowel Writing System

Old Tibetan has a five-vowel system consisting of the usual [a, i, u, e, o]. The four vowel diacritics in the Tibetan writing system were designed to represent the five-vowel system at the time of its invention. Of the five vowels, the vowel [a], treated as default, is unmarked. The other four, called གི་གུ [k^{h}ĭkū], ཞབས་ཀྱུ [shăpkyū], འགྲེང་བུ [trĕːngpō], and ནའོ་རོ [năro], representing the vowels [i, u, e, o] in that order, are written as ཨི, ཨུ, ཨེ, and ཨོ, with གི་གུ (ཨུ) being the only diacritic written beneath the "root" letter. Note that the letter ཨ is only a space filler and not a part of the diacritics. To denote the default vowel [a],

nothing needs to be written, ཨ itself is sufficient. When there is a consonant in the syllable initial position, the vowel diacritics basically look like this:

1.3.4.2. The Actual Eight-Vowel System

The five-vowel system has evolved in Lhasa Tibetan into a basic eight-vowel system. Three additional vowels [ɛ], [ø] and [ü] (see descriptions of the IPA symbols in the chart below) are introduced as the result of a umlaut rule, which changes the back vowels [a], [o] and [u] to the front [ɛ], [ø] and [ü]. The vowels shown in Chart 1.3, repeated below, are described in chart 1.7.



Vowel	Sound Description	Adopted Phonetic Symbol	IPA equivalent	Examples
(ཨ)	low back	a	a	a in *father*
ི	high front	i	i	ee in *deed* without the final glide j
ུ	high back	u	u	oo in *food* without the final glide w
ེ	mid front	e	e	ay in *may* without the final glide j
ོ	mid back	o	o	o in *no* without the final glide w

(ཨ) + d,s, l,n	mid front lax	ɛ	ɛ	e in *bed*
ཨི + d,s, l,n	high front rounded	ü	y	u in *bu* 'drunk' (French); u in *xuyao* 'need' (Chinese)
ཨོ + d,s, l,n	mid front rounded	ø	ø	eu in *feu* 'fire' (French)

Chart 1.7 Vowels in Lhasa Tibetan

The five basic vowels have close equivalents in English and should cause no difficulty to the reader. Some umlauted vowels, although unavailable in English, are fairly common in other Indo-European languages. In Lhasa Tibetan, they are created by the presence of one of certain syllable-final consonants, known as suffixes in Tibetan writing. As shown in the chart, the four suffixes [d, s, n, l] which trigger umlauting on the preceding vowel are all alveolar consonants. We will come back to the issue of umlauting in Lesson 3. For the exercises in this lesson, focus on the five basic ones.

Before we move on, it is worth noting that sometimes the vowel [a] is weakened to sound like a mid central unrounded schwa [ə]. This is especially prominent in certain grammatical particles and when the [a] is adjacent to a syllable containing a high vowel [i] or [u]. This "ninth" vowel [ə] should be considered as a variant, or allophone, of [a] and not a distinct vowel in the system.

❖ 1.4 Exercises

1.4.1 The Alphabet: Repeat after the recording. Pay attention to the tonal contrast between HH (54) and LL (12).

ཀ [kā]	ཁ [k^{h}ā]	ག [k^{h}ă]	ང [ngă]
ཅ [cā]	ཆ [c^{h}ā]	ཇ [c^{h}ă]	ཉ [nyă]
ཏ [tā]	ཐ [t^{h}ā]	ད [t^{h}ă]	ན [nă]
པ [pā]	ཕ [p^{h}ā]	བ [p^{h}ă]	མ [mă]
ཙ [tsā]	ཚ [ts^{h}ā]	ཛ [ts^{h}ă]	ཝ [wă]
ཞ [shă]	ཟ [să]	འ [ă]	ཡ [yă]
ར [ră]	ལ [lă]	ཤ [shā]	ས [sā]
ཧ [hā]	ཨ [ā]		

1.4.2 Pronunciation Drill (I): The basic five vowels. Repeat after the recording.

[k] ཀ་ཀི་ཀུ་ཀེ་ཀོ	[k^h] ཁ་ཁི་ཁུ་ཁེ་ཁོ	[k^h] ག་གི་གུ་གེ་གོ	[ng] ང་ངི་ངུ་ངེ་ངོ
[c] ཅ་ཅི་ཅུ་ཅེ་ཅོ	[c^h] ཆ་ཆི་ཆུ་ཆེ་ཆོ	[c^h] ཇ་ཇི་ཇུ་ཇེ་ཇོ	[ny] ཉ་ཉི་ཉུ་ཉེ་ཉོ
[t] ཏ་ཏི་ཏུ་ཏེ་ཏོ	[t^h] ཐ་ཐི་ཐུ་ཐེ་ཐོ	[t^h] ད་དི་དུ་དེ་དོ	[n] ན་ནི་ནུ་ནེ་ནོ
[p] པ་པི་པུ་པེ་པོ	[p^h] ཕ་ཕི་ཕུ་ཕེ་ཕོ	[p^h] བ་བི་བུ་བེ་བོ	[m] མ་མི་མུ་མེ་མོ
[ts] ཙ་ཙི་ཙུ་ཙེ་ཙོ	[ts^h] ཚ་ཚི་ཚུ་ཚེ་ཚོ	[ts^h] ཛ་ཛི་ཛུ་ཛེ་ཛོ	[w] ཝ་ཝི་ཝུ་ཝེ་ཝོ
[sh] ཞ་ཞི་ཞུ་ཞེ་ཞོ	[s] ཟ་ཟི་ཟུ་ཟེ་ཟོ	[ ] འ་འི་འུ་འེ་འོ	[y] ཡ་ཡི་ཡུ་ཡེ་ཡོ
[r] ར་རི་རུ་རེ་རོ	[l] ལ་ལི་ལུ་ལེ་ལོ	[sh] ཤ་ཤི་ཤུ་ཤེ་ཤོ	[s] ས་སི་སུ་སེ་སོ
[h] ཧ་ཧི་ཧུ་ཧེ་ཧོ	[ ] ཨ་ཨི་ཨུ་ཨེ་ཨོ		

1.4.3 Pronunciation Drill (II): Repeat after the recording. Note that the second syllable in a disyllable word is subject to tone change. Note that the four logical combinations (H + H, H + L, L + H, L + L) yield only two surface tonal patterns, namely H + H and L + H. Imitate the tonal patterns closely.

(1) རི་མོ།	(11) ན་རོ།	(21) ད་ལོ།	(31) ཨ་མ།
(2) ཀུ་ཀུ།	(12) བུ་མོ།	(22) འོ་ན།	(32) འོ་མ།
(3) ཀ་རེ།	(13) ཨ་ནེ།	(23) སེ་ར།	(33) ཁ་སེ།
(4) ཉ་ཤ།	(14) ཞི་མི།	(24) ཉི་ཀུ།	(34) སུ་སུ།
(5) ཤ་མོ།	(15) པོ་ལོ།	(25) ཉི་མ།	(35) འོ་མ།
(6) ཚ་པོ།	(16) རེ་བ།	(26) ད་ལོ།	(36) ཨ་མ།
(7) ཉ་ཀ	(17) ཁ་ཕ།	(27) འོ་ན།	(37) འོ་མ།
(8) མ་བུ།	(18) ཨ་ནེ།	(28) སེ་ར།	(38) ཁ་སེ།
(9) རི་བོ།	(19) ཞི་མི།	(29) ཉི་ཀུ།	(39) སུ་སུ།
(10) ཤ་མོ།	(20) པོ་ལོ།	(30) ཉི་མ།	(40) ཉི་མ།

1.4.4 Pronunciation Drill (III): Repeat after the recording. Note that, in addition to the tone change practiced in the previous exercise (1.5.3), the second syllable, if aspirated in isolation, loses its aspiration. Pay attention to the deaspiration of the second syllable.

(1) ཀཱ་བ།	(6) ཁ་རྒུ།	(11) ག་གི	(16) ཨ་ཚ།
(2) ཅ་ཐ།	(7) ཞེ་ག	(12) ཌ་གི	(17) ཁ་ཆེ།
(3) ཉ་ག	(8) ཨ་ཐ།	(13) ཡི་གེ	(18) འོ་ཏ།
(4) གི་གྱུ	(9) རྒྱ་བ།	(14) ཨ་གྱུ	(19) ན་ཚ།
(5) ཨ་ཡོ།	(10) ཝ་ཆ།	(15) ཌ་ཆོ།	(20) ཨ་རྒུ།

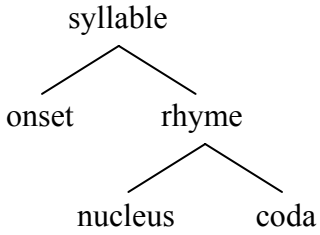
Lesson 2

The Onset of the Syllable

❖ 2.1 The Tibetan Syllable

People generally have a fairly clear intuition about the notion of the syllable in their native language. The following discussion, thus, mainly serves as an introduction to the terminology used in this book to describe the various elements in a Tibetan syllable.

A syllable, universally, contains a nucleus, which is usually a vowel, as the core and the sole obligatory member of the syllable. Most syllables have a consonant (or a cluster of consonants) preceding the nucleus. This consonant (or consonant cluster) is called the onset of the syllable. The nucleus may optionally be followed by a consonant or a cluster of consonants, which is known as the coda. The two elements [nucleus + coda] form an intermediate phonological unit called the rhyme, an intuitive term if one knows why the two English words *right* [rajt] and *bite* [bajt] rhyme. Thus, a syllable has the following structure:



The English words *rip*, *trip*, and *strip* rhyme because they share the same rhyme [ip] consisting of the nucleus [i] and the coda [p]. The onset of the three syllables are [r], [tr], and [str], respectively. One simple way to look at the onset is to say that whatever elements that come before the nucleus will automatically constitute the onset. Tibetan, all dialects in this regard, has a very different idea about what constitutes the onset. In fact, the issue about the onset is so important (and no less fascinating) that we find it necessary to devote the entirety of this lesson to the Tibetan onset. A thorough understanding of what a Tibetan onset consists of and how it is related to the Tibetan orthography will prove extremely helpful to the learner in mastering his or her pronunciation (especially tones) of Lhasa Tibetan for the remainder of the course.

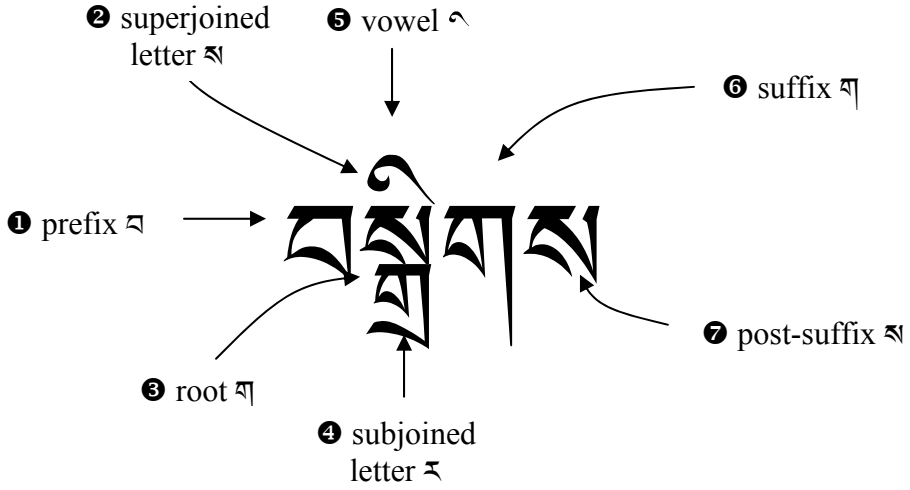
2.1.1 The Writing of a Tibetan Syllable

In Lesson 1, we introduced the basic form of a Tibetan syllable, which consists of the root letter and the vowel diacritic. The vast majority of Tibetan syllables are more complicated than that. Some letters are written on top of the root letter, while others combine with the root letter from underneath. The former are called superjoined letters or superfixes; the latter subjoined letters. Less dramatic are the letters written in a

(horizontal) linear fashion in relation to the root letter. Those which precede the root letter are called prefixed letters or prefixes; those which follow are called suffixes. One additional letter ས can follow a regular suffix. When it does, it is called a post-suffix.

Note that the terms *prefixes* and *suffixes* used here refer only to the Tibetan orthography. They are not used in the normal sense of the word to refer to the morphological structure of a word.

A Tibetan syllable, thus, can contain the whole or a subset of a number of elements including a prefix, a superjoined letter, a subjoined letter, a root letter, a vowel diacritic (could be left unmarked if the vowel is [a]), a suffix, and a post-suffix. The following diagram is of the syllable བསྒྲིགས *to line up*, *to pile*, a "full house" with all seven elements present: ག is called the root letter (མིང་གཞི), ད the prefix (སྔོན་འདྲེན), ས the superjoined letter (མགོ་ཅན), ར the subjoined letter (འདོགས་ཅན), ི་ཀྱ the vowel (དབྱངས), the second ག the suffix (རྗེས་འདྲེན), and the second ས the post-suffix (ཡང་འདྲེན). The numbers indicate the sequence of the writing.



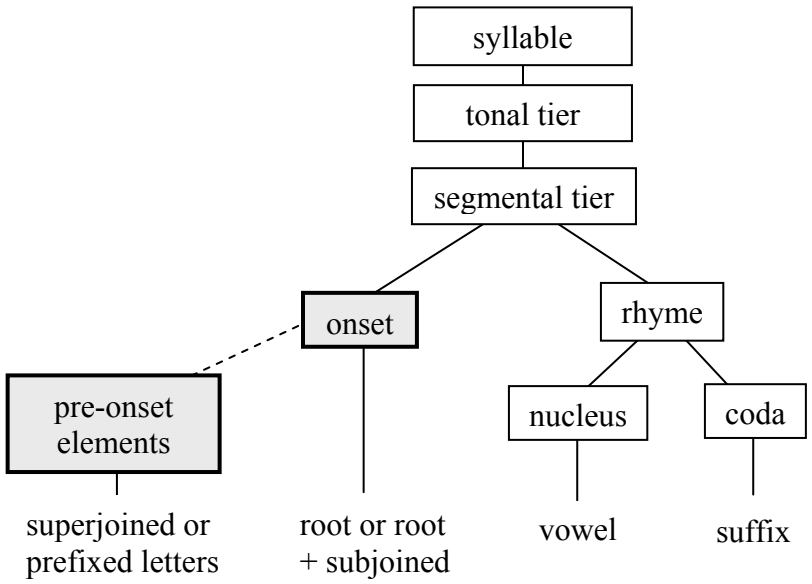
Tibetan writing is syllable-based, i.e., punctuation marks are used to mark boundaries of syllables, not words. Using standard Latin transcription, the syllable shown above can be spelled, letter by letter, as *bsgrigs*. The spelling, although faithful to the Tibetan orthography, certainly does not suggest its actual pronunciation of [trí] in current Lhasa speech. Although written in the same syllable, the *bs* in front of the pronounced onset *gr* [tr] must not be considered as a true part of the onset. Similarly, many Tibetan words have one or two silent consonants that is spelled in front of the pronounced onset. This situation is not unlike the *k* in *knight* and *p* in *psychic* in English. The common impression is that they are required in the spelling but do not contribute to the pronunciation (in English, that is). This impression is not entirely accurate for Tibetan. Believed to be pronounced in Old Tibetan, these odd silent letters, called pre-onset elements in this book

due to their position in the syllable, do contribute to the pronunciation of the syllable in a significant and systematic way.

In the following sections, we will introduce some components of the Tibetan syllable, starting from the subjoined letters and moving on to superjoined letters and prefixes. We will analyze how the pre-onset elements (superjoined letters and prefixes) affect the onset. We hope that, at the end of the four foundational lessons, the learner will be able to easily pronounce *bsgrigs*, or any other bewildering academic spellings, quickly and correctly.

Focusing on the onset first, we will leave the introduction of suffixes and post suffixes to Lesson 3. This is not the traditional order in which Tibetan children learn how to read and write (root, suffix, prefix, subjoined letter, and finally superjoined letter). However, considering the complex interactions among tones and sound segments, the authors feel that it makes more linguistic and pedagogical sense to learn it in this particular sequence.

The following diagram offers a fine-grained look at the *bsgr* part of the syllable *bsgrigs*. We shall start with subjoined letters.



A Lhasa Tibetan Syllable

❖ 2.2 Subjoined Letters (འདོགས་ཅན)

Subjoined letters are the letters written underneath the root letter. Phonologically, they combine with the root letter and form a true onset. This description is at least true to two of the four subjoined letters, namely, ཡ, ར, ལ, and ཤ. Traditional Tibetan orthography does not regard the subjoined letters as part of the root letter to which they are attached. However, at least for ཡ and ར, they combine with the root letter to become an integral part of the onset, modifying the pronunciation of the root letter. In some cases, even new sounds (phonemes) are created. Subjoined letters do not affect the tone of the root letter.

The subjoined letters are described by the word བཏགས་ [tà] 'hanging.' Thus, ཡ in a subjoined position is called ཡ་བཏགས། [yătà]. We shall introduce ཡ་བཏགས། ར་བཏགས། [rătà] ལ་བཏགས།[lătà] and ཝ་ཞུར [wăsúr] (literally "corner wa") one by one.

2.2.1 ཡ་བཏགས། (The subjoined ཡ)

ཡ་བཏགས།, a palatal glide [y], causes palatalization of the root letter it joins. Note that ཡ་བཏགས། looks different when written as a subjoined letter. Below is an exhaustive list of all the possible root letters that take ཡ་བཏགས།: (H = HH, L = LL)

root letter	ཀ	ཁ	ག	ད	ཕ	བ	མ
pronunciation	[k]-H	[k^h]-H	[k^h]-L	[p]-H	[p^h]-H	[p^h]-L	[m]-L
with ཡ་བཏགས།	ཀྱ	ཁྱ	གྱ	ཉ	ཉྷ	བྱ	མྱ
pronunciation	[ky] -H	[k^{h}y]-H	[k^{h}y]-L	[c]-H	[c^h]-H	[c^h]-L	[ny]-L

There are no new sounds produced here. The three velars ཀྱ, གྱ, and ཁྱ are still velar stops with a palatal feature [y] attached to it, although Tibetan speakers' intuition may take them as new sounds due to orthography. The labial feature of མ is completely taken by ཡ་བཏགས་, making མྱ sounds identical to the palatal nasal ཉ [ny]. The other three labial consonants བ་ཕ་བ, when taking ཡ་བཏགས་, become homophonous to the palatal ཅ [c] , ཆ [c^h] , and ཇ [c^h] , respectively. Keep an eye on this group of consonants, especially བ, as later they will change their pronunciation rather dramatically when superjoined and prefixed. We will come back to these three in section 2.4.3 when discussing the prefixes ད and ཨ.

2.2.2 ར་བཏགས། (The subjoined ར)

ར་བཏགས།, a retroflex consonant, creates three new phonemes in the consonant system, namely [tr], [tr^h], and [sr], identical to the retroflexes in Mandarin Chinese *zhi* 'to know', *chi* 'to eat', and *shi* 'teacher'. When ར་བཏགས་ is subjoined to any root letter from the three groups of velars (ཀ, ཁ, ག), alveolars (ཏ, ཐ , ད), and labials (པ, ཕ, བ), the new combination results in an alveolar retroflex sound [tr^h] or [tr]. Different places of articulation of the root letters do not matter anymore. In other words, the different

writings ཁྲ, ཐྲ, and ཙྲ have the same pronunciation as the aspirated alveolar [tr^h]-HH; similarly, ཀྲ, ཏྲ, ཅྲ merge to one sound: unaspirated [tr]-HH and གྲ, དྲ, བྲ merge to [tr^h]-LL. When ར་བཏགས། takes ཏ, the result is the retroflex ཏྲ [sr] -HH. Interestingly enough, ས with ར་བཏགས (སྲ) does not have any effect on its pronunciation. It (སྲ) remains [s]. Nor does མ(སྨ), which retains its simple labial nasal personality [m]. Below is the complete list of ར་བཏགས.

root letter	ཀ་ཏ་ཅ་	ཁ་ཐ་ཙ	ག་ད་བ	མ་ས	ཏ
with ར་བཏགས	ཀྲ་ཏྲ་ཅྲ་	ཁྲ་ཐྲ་ཙྲ	གྲ་དྲ་བྲ	སྨ་སྲ	ཏྲ
pronunciation	[tr] -H	[tr^h] -H	[tr^h] -L	no change	[sr] -H

2.2.3 ལ་བཏགས། (The subjoined ལ)

ལ་བཏགས is an anomaly among subjoined letters. It is treated as a subjoined letter in the traditional Tibetan grammar, but it behaves, at least phonologically, as the root. While other subjoined letters modify the pronunciation of the root letter, ལ་བཏགས། seems to "take over" entirely. Of the six possible combinations, five of them (ཀླ, ཁླ,གླ, ཟླ, རླ) are pronounced [l]-HH. The tone is changed from LL to HH. As we shall learn, this change is a typical effect of a prefix or superfix on a sonorant root. In other words, one can imagine that the five supposed root letters (ཀ, ག, ཟ, ར,ས) are serving ལ་བཏགས as its superfix. Note, however, except for ར and ས, the other three (ཀ, ག, ཟ) are not possible superfixes in Tibetan orthography. Thus the traditional analysis; thus the anomaly.

The sixth combination is also irregular: བླ has an unexpected pronunciation of [t]-LL. Note that, unlike the other five, the tone of བླ remains LL. Some speakers may carry a pre-onset nasal and pronounce it as [^{n}t]. We will discuss this phenomenon shortly. Here is a summary of ལ་བཏགས.

root letter	ཀ་ག་ཟ་ར་ས།	བ
with ལ་བཏགས	ཀླ་ཁླ་གླ་ཟླ་རླ།	བླ
pronunciation	ལ [l] -H	[t] -L

2.2.4 ཡ་རྒྱང (The subjoined ཡ)

ཞ་རྒྱུད is attached to a rather large number of root letters: ཀ , ཁ, ག, ཅ, ད , ཚ, ཞ, ར, ལ, ཤ, ས, ཧ, and even some already with a subjoined letter: བྱ → ཐྱ. Its presence has no effect on the pronunciation of the root letter, but does serve the orthographic purpose of distinguishing words such as ལྷ *robe* vs. the grammatical particle ལ *to*/*in*. This function resembles the French *accent circomflex* used on *dû* (past participle of *devoir*) to distinguish itself from *du* (contraction of *de le*). Letters with ཞ་རྒྱུད look like: ཀྱ, ཁྱ, གྱ, ཅྱ, ད , ཚྱ, ཞྱ, རྱ, ལྱ, ཤྱ, སྱ, ཧྱ.

❖ 2.3 Pre-onset (I): Superjoined Letters (མགོ་ཅན)

2.3.1 Deaspiration and Tone Change

There is one good reason to put superjoined letters and prefixes all in one bag as "pre-onset" elements. The two groups have virtually the same effect on the root letter: they (i) deaspirate the third column obstruents (ག, ཇ, ད, ཌ, and ཛ) and (ii) change the tone of sonorants (nasals [m, n, ny, ng], liquids [l, r], and glides [y, w]) from LL to HH. The only difference is that the superjoined letters are written on top of the root and the prefixes precede the root letter.

As we mentioned in Lesson 1, in the Tibetan alphabet table, letters line up in rows and columns, for the most part, according to their place of articulation and manner of articulation. Some members of the third column undergo sound changes when superjoined. They are ག, ཇ, ད, ཌ, and ཛ, all aspirated low-tone obstruents derived from voiced obstruents in Old Tibetan. Subjoined letters with these "third columners" as the root such as ག, ད, ཌ and ཛ are also affected in exactly the same way. (ཟ is extremely tricky with prefixes and superfixes, which we will deal with separately.) When superjoined, they all become unaspirated, while maintaining the same (low) tone. Sonorants, on the other hand, change their tone from LL to HH.

The alphabet chart below should offer the reader some visual help in remembering the two effects. No voiceless obstruents other than the five third columners are affected by prefixes and superfixes. The two vowels འ and ཨ don't participate in this game either. They are all put in parentheses. The shaded areas indicate the deaspiration zone and the the zone of tone change. (Letters with a prefix and/or superfix are marked with a circumflex mark in front.)

Column I	Column II	Column III	Column IV
(ཀ)	(ཁ)	^གཱ	^ང
(ཅ)	(ཆ)	^ཇ	^ཉ
(ཏ)	(ཐ)	^ད	^ན
(པ)	(ཕ)	^བ	^མ
(ཙ)	(ཚ)	^ཛ	^ཝ
(ཞ)	(ཟ)	(འ)	^ཡ
^ར	^ལ	(ཤ)	(ས)
(ཧ)	(ཨ)		

deaspiration

tone change (LL→HH)

Chart 2.1 Deaspiration and Tone Change by Pre-onset Element

The effects are obvious with the third columners and nasals. Now the deaspirated [k, c, t, p, ts]-LL (^གཱ, ^ཇ, ^ད, ^བ, ^ཛ) contrast with the first column [k, c, t, p, ts]-HH (ཀ, ཅ, ཏ, པ, ཙ) and the prefixed/superfixed nasals (^ང, ^ཉ, ^ན, ^མ) contrast with themselves (ང, ཉ, ན, མ) in tone. The effect on the glide ཡ can only be seen when it is prefixed by གྱ. The word *yak* གཡག [yà], for example, is spelled with the གཡག onset with a high tone [y]. The other glide ཝ, [w]-LL, happens to take no superfix of prefix. The high tone [w] is instead observed from a ད prefixed by ད (དད), still a manifestation of the effect of tone change by a prefix. Similarly, the retroflex ར does not combine with any superfix or prefix. The high tone [r] is represented by དྲ. Finally, for the case of ལ, although not treated as a superfixed ལ, the five combinations (ལྐ, ལྒ, ལྔ, ལྕ, ལྷ, all [l]-HH), discussed earlier with ལ་བཏགས, exhibit the same effect of tone change.

Recall that in Lesson 1, we point out in Chart 1.5 that more than half of the consonants lack a corresponding tone when represented by a single letter, leaving too many gaps in the system for a tone language to use its full capacity of tonal contrast. With prefixes and superfixes, the gaps are filled nicely, as shown in the following chart.

	labial		alveolar		alveo- palatal		velar/glottal	
unaspirated stops	p	HH ཨ	t	HH ཏ			k	HH ཀ
		LL ^ཨ		LL ^ད				LL ^ག
aspirated stops	p^h	HH ཕ	t^h	HH ཐ			k^h	HH ཁ
		LL བ		LL ད				LL ག
fricatives			s	HH ས	sh	HH ཤ	h	HH ཧ
				LL ཟ		LL ཞ		true gap
unaspirated affricates			ts	HH ཙ	c	HH ཅ		
				LL ^ཛ		LL ^ཇ		
aspirated affricates			ts^h	HH ཚ	c^h	HH ཆ		
				LL ཛ		LL ཇ		
nasals	m	HH ^མ	n	HH ^ན	ny	HH ^ཉ	ng	HH ^ང
		LL མ		LL ན		LL ཉ		LL ང
liquids			l, l^h	HH ^ལ, ླ	r	HH ^ཏྲ		
				LL ལ		LL ར		
glides					y	HH ^ཡ, ^ཏྲ	w	HH ^ཏྲ
						LL ཡ		LL ྭ

Chart 2.2 Tonal gaps filled in by prefixed or superfixed letters

When a root letter is simultaneously subjoined and superjoined, it is called a folded letter (བརྒྱབ་ཡིག). In a folded letter, the combinations of a third columner and a subjoined letter are subject to the same effects of deaspiration and tone change. Examples: ཀྱ [kya]-L, ཁྱ [kya]-L, ཏྲ [tra]-L, ཐྲ [tra]-L. Naturally, folded letters that do not involve a third columner do not undergo any change. Examples: ཀྱ [kya]-H, ཁྱ [kya]-H, ཏྲ [tra]-H. Recall that the three labial consonants ཝ, ཕ, བ are palatalized to ཉ [c]-H, ཉ [c^h]-H, ཉ [c^h]-L, respectively, when subjoined by ཡ་བཏགས. Note the irregular pronunciations involving them, see section 2.4.2 for details.

Sharp-eared learners may notice that some Lhasa speakers pronounce aspirated low toned third columners ག, ཌ, ད, བ, ཛ without aspiration, as if they were prefixed. For example, one may find some speakers pronounce the single letter ཛ as [ts^ha]-L, some others pronounce it as [tsa]-L, without aspiration. The reason is simple: There are two internal subdialects within the Lhasa speech. One group distinguishes aspirated low tone third columners from their non-aspirated counterparts (when super- or pre-fixed). For

them the pair གོ [k^{h}o]-L *to hear* and སྒོ [ko]-L *door* are clearly different. For the other group, the words are simply homophones, both pronounced [ko]-L. There is no social prejudice again either group. This textbook will mark aspiration for these sounds as contrastive.

Now we will discuss the superjoined letters and prefixes one at a time.

2.3.2 ར་མགོ (The superfix ར)

There are three superjoined letters: ར, ལ, and ས, named as ར་མགོ [rǎngkō], ལ་མགོ [lǎngkō] and ས་མགོ [sāngkō]. Superjoined letters are, with the sole exception of the combination ལྷ [lhā], silent pre-onset elements. The word "silent" here means that the superjoined letters are not pronounced when the syllable is cited alone. When the syllable is morphologically close enough to a preceding syllable, the superjoined letter may then be resurrected and become pronounced. This phenomenon, called by the authors a "leftward liaison", will be discussed in Lesson 4.

ར་མགོ may be superjoined to one of the following twelve root letters: ཀ, ག, ང, ཉ, ད, ཏ, ན, པ, བ, མ, ཙ, ཛ. When serving as a superfix, only the first two strokes of ར are written, with only one exception: ཉ, where the entire ར is produced. As predicted by the above-mentioned effects, among the twelve combinations, ཀ [k]-L, ཛ [c]-L, ད [t]-L, ཟ [p]-L, and ཛ [ts]-L undergo deaspiration. Nasals, ང [ng]-H, ཉ [ny]-H, ན [n]-H, and མ [m]-H, under go tone change.

2.3.3 ལ་མགོ (The superfix ལ)

ལ་མགོ may be superjoined to one of the following ten root letters: ཀ, ག, ང, ཅ, ཇ, ཉ, ད, ཐ, ན, པ. The deaspiration rule affects four of the ten combinations: ཀ [ka]-L, ཇ [ca]-L. ད [ta]-L, and པ [p]-L. Tone change affects ང, now [ng]-H. The combination ལྷ creates a new phoneme in the sound system, the aspirated lateral [l^{h}a]-H.

ལ་མགོ may have a nasal quality in situations when a pre-onset element is pronounced as the coda of the previous syllable. When this happens, the superfix ལ behaves just like the prefixes མ and འ. See 2.4.2 and 2.5.2 for relevant discussion.

2.3.4 ས་མགོ (The superfix ས)

ས་མགོ may be superjoined to one of the following eleven root letters: ཀ, ག, ང, ཉ, ད, ཧ, བ, མ, ཙ, ཞ, ཟ. Like other superjoiners, ས་མགོ triggers the deaspiration rule for the third columners,

causing the following sound changes: ཀྱ [ka]-L, ཏྱ [ta]-L, and པྱ [pa]-L. The velar nasal ངྱ also becomes a high tone [ng]-H.

❖ 2.4 Pre-onset (II): Prefixes (སྔོན་འདྲེན)

There are five prefixes: ག་ད་བ་མ་ and འ. Besides the fact that prefixes are written horizontally to the left of the root letter, there is little to be said about them that we have not already said about superjoined letters. Prefixes resemble superjoined letters in that they are not part of the onset. As silent pre-onset elements, they trigger the deaspiration rule on third columners and tone change on sonorants.

2.4.1 Prefixes ག, ད, and བ

Prefixes may appear to the left of a root letter, a superjoined letter, a subjoined letter, or a folded letter. Remember that they create the same effects of deaspiration and tone change before the "appropriate" root letters just as a superfix. Even if the appropriate root letter is already affected by a superfix, the prefix's effect applies anyway, although vacuously. For example, the aspirated ད [t^h]-LL becomes deaspirated [t]-LL either with a superfix (རྡ, སྡ, ལྡ), a prefix (གད, བད, མད, འད), or with both (བརྡ, བསྡ).

The prefix ད creates three remarkable exceptions: (1) ད + བ [p^h]-LL becomes དབ [w]-HH; (2) ད + ཇ [c^h]-LL becomes དཇ [y]-HH; and (3) ད + ཐ [tr^h]-LL becomes དཐ [r]-HH. The following examples are useful words to remember the pronunciations by.

(1) དབང་ཆ [wā:ngcā] 'power, authority, rights'

(2) དཇར་ཀ [yā:kā] 'summer'

(3) དཐེ་ལ [rɛ̄:] 'to tear, to rip'

The interaction between the root letters ཝ, ཕ, བ and the prefix ད is summarized below in Chart 2.3.

root letter	with ཡ་བཏགས	prefixed	with ར་བཏགས	prefixed
ཝ [p]-HH	ཇ [c]-HH	དཇ [c]-HH	ཉ [tr]-HH	དཉ [tr]-HH
ཕ [p^h]-HH	཈ [c^h]-HH	འ཈ [c^h]-HH	ཊ [tr^h]-HH	འཊ [tr^h]-HH
བ [p^h]-LL	ཇ [c^h]-LL	དཇ [y]-HH	ཉ [tr^h]-LL	དཐ [r]-HH
དབ [w]-HH		འཇ [c]-LL		

Chart 2.3 Labial Root Letters and Their Variations

2.4.2 Prefixes མ and འ

The prefixes མ and འ affect the root letter in exactly the same way as the other three prefixes. The only difference is that མ and འ also have an underlying nasal sound. Together with the superfix ལ, the three form a natural group of pre-onset nasal consonant. Some Lhasa Tibetans constantly pronounce the nasal sound of མ, འ, and ལ in front of the root letter even when the syllable is in isolation. For example, among the nine combinations དྲ, སྣ, ཤྭ, གད, བད, མད, འད, བཛ, and བསྣ, the ones with pre-onset མ, འ, and ལ can be pronounced as [nt]. In the summary chart of all consonants, the possible pre-onset nasal sound is marked with an asterisk mark: *ཤྭ, *མད, *འད. It should be noted that this nasal sound is not specified for a specific place of articulation and that it is decided by the place of articulation of the root letter. The same prefix མ, for instance, is pronounced differently as [m], [n], and [ng] in front of *མད [nt] and *མག [ngk], respectively; whereas different prefixes are pronounced identically as [mp] in front of the same root *ཤྭ and *འ བ.

The three nasal pre-onset letters tend to be pronounced as the coda of the previous syllable if the two syllables are morphologically or syntactically close enough. See 2.5.2 for examples.

❖ 2.6 Oral Spelling (I)

2.6.1 Simple Syllables

The peculiar way of spelling out a syllable orally is unique to the Tibetan language. Unlike English, which spells out words in a letter-by-letter fashion, Tibetan spells out syllables in a "progressively-staged" fashion. Take the word *knight* for example. English employs a straightforward K-N-I-G-H-T- *knight* [najt] oral spelling. The progressively-staged fashion of Tibetan spelling works like this: K-N reads N [ɛn], plus I becomes NEE [ni], plus GH becomes NIE [naj], plus T results in NITE [najt]. The intermediate stages [ɛn], [ni], and [naj] are all spelled out before the final output [najt] is reached. This may sound complicated and difficult, but it is not. The traditional method of language education in Tibet trains young pupils to master oral spelling even before they are to read texts. This is because, as homonyms such as *there*, *their*, and *they're*, exist in abundance in Tibetan, oral spelling serves an important role in preserving the written tradition. As a result, anyone who has had a couple of years of formal education at a Tibetan elementary school knows this spelling method like the back of his hand and can do it in rapid rhythm. Often, when asked by someone how a word is written, a native speaker of Tibetan will immediately perform the oral spelling. Therefore, it is practical to learn this method well. In this lesson, we will introduce the more basic oral spellings. More complicated syllables will be covered in Lesson 3.

Basic concept first. Oral spelling does not spell out vowels by their sound values such as [a], [i], [u], [e], [o] but by their formal names, namely གི་གུ [kʰǐkū] for [i], ཞབས་ཀྱུ [shǎpkyū] (or more colloquially [shǎpcū]) for [u], འགྲེང་བུ [trĕːngpū] (or [trĕːngpō]) for [e], and ནཱ་རོ [nărō] for [o]. The vowel [a] is assumed as default and needs not be spelled out.

Examples:

(1) ཀཱི spells [kā k^{h}ǐkū kī]

(2) ངཱ spells [ngă nărō ngŏ]

(3) ཆུ spells [c^{h}ā shăpcū c^{h}ū]

(4) ཐེ spells [t^{h}ē trĕːngpō t^{h}ē]

(5) ན simply spells [nă] (ན)

For syllables without an onset (initial consonant), either ཨ (HH) or ཪ (LL) fills in to carry the vowel diacritic (or in the case of [a], to represent the entire syllable [a]). Examples:

(6) ཨཱ spells [ă nărō ŏ]

(7) ཨུ spells [ā shăpcū ū]

A multisyllabic word is spelt out syllable by syllable before the whole word is repeated. Examples: (Note that the tone sandhi rule is at work.)

(8) ཀཱུ་ཤུ 'apple' spells [kā shăpcū kū | shā shăpcū shū | kūshū]

(9) ནུ་མོ 'younger sister' spells [nă shăpcū nŭ | mă nărō mŏ | nŭmō]

(10) ཉི་མ 'sun' spells [nyă k^{h}ǐkū nyĭ | mă | nyĭmā]

(11) གཱ་རེ 'what' spells [k^{h}ă | ră trĕngpō rĕ | k^{h}ărē]

2.6.2 Subjoined, Superjoined, and Prefixed Letters

The relation between a prefix and what follows (superfix or root letter) to its right is specified by the word འོག [wò] or [ò] ‘under’. For example, the word བཅུ ‘ten’ is spelt as [p^{h}ăwò | cā shăpcū cū]. A different word བཏགས [tà] (or [ptà]) ‘fastened, tied to’ is used to indicate the vertical relationship between a superfix and a root letter or between a root letter and a subscript. The basic idea is to make sure that when spelling two letters A and B, with A stacking on top of B, one says A-B-བཏགས [tà], literally *A with B attached (underneath)*. For example, the word རྟ ‘horse’ is spelt as [ră | tātà | tā]. The prefix བ of བཏགས may be pronounced, in which case the spell-out becomes [ră | tāptà | tā]. The root-subscript (A-B) sequence is also A-B-བཏགས [tà], followed by the new sound. For example, ཁྲི spells [k^{h}ā rătà tr^{h}ā]. More examples:

(12) ཁྲི ‘throne’ spells [k^{h}ā rătà tr^{h}ā | k^{h}ǐkū tr^{h}ī]

(12) རྩེ ‘tip’ spells [ră tsātà tsā | trĕːngpō tsē]

(13) དཔེ་ཆ ‘book’ spells [t^{h}ăwò | pā trĕːngpō pē | c^{h}ā | pēcā]

(14) བཟོ་པ 'worker' spells [p^{h}ăwò | să nărō sŏ | pā | sŏpā]

Recall that superfixes and prefixes trigger deaspiration and tone change on third columners and sonorants, respectively. The oral spelling wastes no time in noting this sound change. For example, when the aspirated ཀ is preceded by a superfix ར, the [k^{h}]-LL is deaspirated to [k]-LL as a result. The spelling for རྐ, [ră **k**ătà kă], addresses the sound change when ཀ is mentioned the first time. The oral spelling does not “derive” [k] by saying *[ră **k^{h}**ătà kă]. The same philosophy applies to prefix-root sequence. For example, the word མགོ ‘head’ is spelt as [măwò | **k**ă nărō kŏ] and not *[măwò | **k^{h}**ă nărō kŏ]. More examples:

(15) སྐ spells [sā nātà nā] (not *[sā n**ă**tà nā])

(16) རྩ spells [ră tsătà tsă | nărō tsŏ] (not *[ră **ts^{h}**ătà tsă | nărō tsŏ])

In case of a folded letter, with a superfix over the root letter over a subjoined letter, one simply repeats the use of བཏགས following the examples: སྐྱ [sā kătà kă | yătà kyă | nărō kyŏ] and སྒྲ [sā kătà kă | rătà tră | shŏpcū trŭ]. More examples:

(17) དགྲ ‘enemy’ spells [t^{h}ăwò | kă rătà tră]

(18) བཀྲ ‘lovely’ spells [p^{h}ăwò | kā rătà trā]

(19) སྔྲོ ‘morning’ spells [sā ngātà ngā | t^{h}ă rătà tr^{h}ă | nărō tr^{h}ŏ | ngātrō]

This last example merits some comments. First, the superfix ས [sāngkō] changes the tone of the nasal ང to high tone. Then, the subscript ར [rătà] changes the root ད to a retroflex [tr^{h}]-LL. Finally, when the two syllables are put together, the onset of the second syllable ([tr^{h}]) becomes deaspirated ([tr]), rendering སྔོ [ngātrō] (see Lesson 4 for more detail). We will continue the second part of oral spelling in Lesson 3, after having learned the pronunciation of the rhyme.

❖ 2.7 Summary of Consonants

In Lesson 1 we mentioned that individual letters in the alphabet only represent a subset of the consonantal phonemes in Lhasa Tibetan, 21 out of 25, to be exact. A more conspicuous problem is the lack of one tone for some of the sounds. By adding subscript letters, prefixes, and superfixes, 4 more consonants ([tr, trh, sr, l^{h}]) are represented and most of the tonal gaps are filled. The only three sounds that have only one tone (HH) are ཧ, ཤ, and ཬ [h, sh, l^{h}] Although the correspondence between sound and orthography in Tibetan is remarkably systematic, it may be overwhelming at the beginning for learners.

The following two charts offer sound-based or orthography-based references for our readers to check pronunciation of consonants.

2.7.1 Summary of Sound-Orthography Correspondence

Sound	High Tone	Low Tone
p	པ། ཕྱ། སྤ། དཔ།	ཨ། སྤ། *ཕྱ། *འཕ།
p^h	ཕ། འཕ།	བ།
t	ཏ། གཏ། བཏ། རྟ། ལྟ། སྟ། བརྟ། བལྟ། བསྟ།	གད། བད། དྲ། སྡ། བདྲ། བསྡ། *མད། *འད། *ལྡ། *སྡ། *བལྡ། *བསྡ།
t^h	ཐ།མཐ། འཐ།	ད། དྲ།
k	ཀ ཀྱ། དཀ བཀ ཀྲ། ཁྲ། སྐ། བཀྲ། བསྐ།	དག བག ཁྲ། སྐ། བཁྲ། བསྐ། ཁྲ། *མག *འག
k^h	ཁ། ཁྱ། མཁ། འཁ།	ག གྲ
ky	ཀྱ། དཀྱ། བཀྱ། ཀྱ། སྐྱ། བཀྱ། བསྐྱ།	དཀྱ། བཀྱ། ཀྱ། སྐྱ། བཀྱ། བསྐྱ། *མཀྱ། *འཀྱ།
ky^h	ཁྱ། མཁྱ། འཁྱ།	གྱ།
c	ཅ། གཅ། བཅ། ཙྪ། ཚྱ། དཚྱ། སྤྱ།	རྩ། བརྩ། ལྩ། སྤྱ། *མརྩ། *འརྩ། *འཚྱ།
c^h	ཆ། མཆ། འཆ། ཚྱ། འཚྱ།	ཙ། ཚྱ།
ts	ཙ། རྩ། སྩ། གཙ། བཙ། གརྩ། བརྩ། རྩྭ།	རྩ། བརྩ། *མརྩ། *འརྩ།
ts^h	ཚ། རྩྷ། མཚ། འཚ།	ཙ།
tr	ཀྲ། དཀྲ། བཀྲ། སྐྲ། བསྐྲ། ཏྲ། དཏྲ། སྐྲ། ཏྲ།	དགྲ། བགྲ། སྐྲ། བསྐྲ། སྐྲ། *མགྲ། *འགྲ། *འདྲ། *འབྲ།
tr^h	ཁྲ། ཐྲ། ཕྲ།	གྲ། དྲ། བྲ། གྲ།
s	ས། སྱ། སྲ། སྐྱ། བས། བསྲ།	ཟ། ཟྱ། གཟ། བཟ།
sh	ཤ། ཤྱ། གཤ། བཤ།	ཞ། ཞྱ། གཞ། བཞ།
sr	ཧྲ།	---
h	ཧ། ཧྱ།	---

m	དམ། རྨ། སྨ།	མ། ཙྨ།
n	གན། མན། རྣ། སྣ། བརྣ། བསྣ།	ན།
ny	གཉ། མཉ། རྙ། སྙ། བརྙ། བསྙ། དཔྱ།	ཉ། ཉུ། ཤྱ།
ng	དང་། བང་། རྔ། ལྔ། སྔ། བརྔ། བསྔ།	ང་།
r	དབྱ།	ར། ཟྲ།
l	ལྷ། ཟླ། བླ། རླ། སླ། བལྷ། བཟླ། བསླ།	ལ། ལྷ།
l^h	ལྷ།	---
y	གཡ། དབྱ།	ཡ།
w	དབ།	ཞྭ།

2.7.2 Summary of Orthography-Sound Correspondence

(* indicates pre-onset nasal possible for some speakers.)

Root	Orthographic Environment	Sound	Exhaustive Listing
ཀ	single or with prefix/superfix	[k]-H	ཀ ཀྱ། དཀ བཀ ཀཀ། ཤཀ། སྐ། བཀཀ། བསྐ།
	subscribed by ཡ, with or without prefix/superfix	[ky]-H	ཀྱ། དཀྱ། བཀྱ། ཀྱྱ། སྐྱ། བཀྱྱ། བསྐྱ།
	subscribed by ར, with or without prefix/superfix	[tr]-H	ཀྲ། དཀྲ། བཀྲ། སྐྲ། བསྐྲ།
ཁ	single or with prefix/superfix	[k^h]-H	ཁ། ཁྲ། མཁ། འཁ།
	subscribed by ཡ, with or without prefix/superfix	[k^hy]-H	ཁྱ། མཁྱ། འཁྱ།
	subscribed by ར, with or without prefix/superfix	[tr^h]-H	ཁྲ།
	single letter	[k^h]-L	ག གྱ
	with prefix/superfix	[k]-L	དག བག གྱ། སྒ། བགྱ། བསྒ། ལྒ། *མག *འག
	subscribed by ཡ, single letter	[k^hy]-L	ཀྱ།

ཀ	subscribed by ཡ, with prefix/superfix	[ky]-L	དཀྱ། བཀྱ། རྐྱ། སྐྱ། བརྐྱ། བསྐྱ། *མཁྱ། *འཁྱ།
	subscribed by ར, single letter	[tr^h]-L	ཁྲ།
	subscribed by ར, with prefix/superfix	[tr]-L	དཀྲ། བཀྲ། སྐྲ། བསྐྲ། སྐྲ། *མཁྲ། *འཁྲ།
ང	single	[ng]-L	ང་།
	with prefix/superfix	[ng]-H	དངོ། བདེ། རྔ། ལྔ། སྣ། བཏྣ། བསྣ།
ཅ	single or with prefix/superfix	[c]-H	ཅ། གཅ། བཅ། ཤྭ།
ཆ	single or with prefix/superfix	[c^h]-H	ཆ། མཆ། འཆ།
ཇ	single	[c^h]-L	ཇ།
	with prefix/superfix	[c]-L	རྗེ། བརྗེ། ཤྲོ། *མཇ། *འཇ།
ཉ	single	[ny]-L	ཉ། ཉུ།
	with prefix/superfix	[ny]-H	གཉ། མཉ། རྙེ། སྙེ། བརྙེ། བསྙེ།
ཏ	single or with prefix/superfix	[t]-H	ཏ། གཏ། བཏ། རྟ། ལྟ། སྟ། བརྟ། བལྟ། བསྟ།
	subscribed by ར, with or without prefix/superfix	[tr]-H	ཀྲ།
ཐ	single or with prefix/superfix	[t^h]-H	ཐ། མཐ། འཐ།
	subscribed by ར, with or without prefix/superfix	[tr^h]-H	ཐྲ།
ད	single letter	[t^h]-L	དེ། དུ།
	with prefix/superfix	[t]-L	གདེ། བདེ། རྡེ། སྡེ། བརྡེ། བསྡེ། *མདེ། *འདེ། *ལྡེ། *བལྡེ།
	subscribed by ར, single letter	[tr^h]-L	དྲེ།

	subscribed by ར, with prefix/superfix	[tr]-L	*འདྲ།
ན	single letter	[n]-L	ན།
	with prefix/superfix	[n]-H	གན། མན། རྣ། སྣ། བརྣ། བསྣ།
བ	single or with prefix/superfix	[p]-H	བ། ཕྱ། སྦ། དབ།
	subscribed by ཡ, with or without prefix/superfix	[c]-H	ཐྱ། དཐྱ།
	subscribed by ར, with or without prefix/superfix	[tr]-H	ཐྲ། དཐྲ། སྦྲ།
ཕ	single or with prefix/superfix	[p^h]-H	ཕ། འཕ།
	subscribed by ཡ, with or without prefix/superfix	[c^h]-H	ཕྱ།
	subscribed by ར, with or without prefix/superfix	[tr^h]-H	ཕྲ།
ཨ	single letter	[p^h]-L	ཨ།
	with prefix/superfix other than དྲ	[p]-L	ཨ། སྦ། *ཕྱ། *འཨ།
	with prefix དྲ	[w]-H	དྲཨ།
	subscribed by ཡ single letter	[c^h]-L	ཐྱ།
	subscribed by ཡ with prefix འ	[c]-L	སྐྱ། *འཐྱ།
	subscribed by ཡ with prefix དྲ	[y]-H	དྲཐྱ།
	subscribed by ར, single letter	[tr^h]-L	ཐྲ།
	subscribed by ར, with prefix འ	[tr]-L	*འཐྲ།
	subscribed by ར, with prefix དྲ	[r]-H	དྲཐྲ།
	single letter or subscribed by ར	[m]-L	མ། ཨྰ།

མ	with prefix/superfix	[m]-H	དམ། རྨ། སྨ།
	subscribed by ཡ	[ny]-L	སྨ།
	subscribed by ར, with prefix ད	[ny]-H	དསྨ།
ཙ	single or with prefix/superfix	[ts]-H	ཙོ། རྩ། སྩེ། གཙོ། བཙོ། གརྩ། བརྩ།
ཚ	single or with prefix/superfix	[ts^{h}]-H	ཚོ། ཚྭ། མཚོ། འཚོ།
ཛ	single	[ts^{h}]-L	ཛོ།
	with prefix/superfix	[ts]-L	ཛོ། བཛོ། *མཛོ། *འཛོ།
ཝ	single (only)	[w]-L	ཝ།
ཞ	single or with prefix/superfix	[sh]-L	ཞ། ཞྭ། གཞ། བཞ།
ཟ	single or with prefix/superfix	[s]-L	ཟ། ཟླ། གཟ། བཟ།
	subscribed by ལ	[t]-L	*བླ། *བབླ།
ཡ	single	[y]-L	ཡ།
	with prefix ག	[y]-H	གཡ།
ར	single (only)	[r]-L	ར། རྭ།
ལ	single	[l]-L	ལ། ལྭ།
	subscribed ལ acts as if it were the root letter in these cases	[l]-H	བླ། ཕླ། བླ། ཟླ། སླ། བབླ། བཟླ། བསླ།
ཤ	single or with prefix/superfix	[sh]-H	ཤ། ཤྭ། གཤ། བཤ།
ས	single or with prefix/superfix	[s]-H	སེ། སྭ། སྲ། སྨ། བསེ། བསྲ།
	single (only)	[h]-H	ཧ། ཧྭ།

ཀ	subscribed by ར	[sr]-H	ཧྲ།
	superscribed by ལ	[l^h]-H	ལྷ།

❖ 2.8 Exercises

2.8.1 Pronunciation Drill (I): subjoined letters

(1) ལ། སྐ། (7) ཀྱ། ཀྱ། (13) དོ། དྲོ། (19) ཡོ། ཡོ།
(2) ཕི། ཕྱི། (8) ཏ། ཏ། (14) གེ། གྲེ། (20) ཐེ། ཐྲེ།
(3) ཀོ། ཀྲོ། (9) དུ། དྲུ། (15) ཀ། ཀྲ། (21) ཁོ། ཁྲོ།
(4) ཟ། ཟླ། (10) མ། སྨ། (16) བ། བྲ། (22) ཞུ། ཞྭུ།
(5) བ། བྱ། (11) སྣ། སྣུ། (17) བོ། བྲོ། (23) ར། རྭ།
(6) གོ། གྲོ། (12) ལ། ལྭ། (18) ཁྱ། ཁྲྱ། (24) ཀྱ། ཀྲྱ།

2.8.2 Pronunciation Drill (II): superjoined and prefixed letters

(1) དོ། བདོ། བསྟོ། (7) གྲྭ། རྒྱ། བསྒྱ། (13) ཞྭ། བཞྭ། (19) ནོ། རྣོ། བསྟོ།
(2) བ། ཁ། (8) གྲོ། འགྲོ། (14) གེ། དགེ། བསྒེ། (20) རྩེ། རྩེ། འཚེ།
(3) གོ། མགོ། (9) ཏ། ལྟ། (15) ཡོ། གཡོ། དབྱོ། (21) ཐ། ཕྱ། འཕྱ།
(4) ཀ། རྐ། (10) བ། བཟ། དབཟ། (16) བོ། དབོ། (22) བ། བྱ། དབྱ། འབྱ།
(5) ཅོ། གཅོ། རྩྭ། (11) ཤེ། ཤྱེ། གཤེ། (17) ཁ། བྱ། དབྱ། (23) ང་། སྐམ།
(6) དེ། རྡ། བདེ། (12) ཀོ། མཀོ། བསྐོ། (18) སྐྱ། སྐྱ། དསྐྱ། (24) བ། ཟ། དབཟ།

2.8.3 Pronunciation Drill (III): disyllabic words

(1) བདེ་ཡོ། (8) རྩོ་བོ། (15) ལྷ་མོ། (22) བཅུ་དགུ།
(2) ལྷ་ས། (9) བཞེ་ཐ། (16) སྤྱི་ལོ། (23) སྤྲོ་ཡོ།
(3) ཁྲོ་གཅ། (10) བཟོ་ཐ། (17) རྒྱ་མ། (24) སྐུ་བླ།
(4) རྩེ་རྩེ། (11) ཤ་སྐྱ། (18) མགོ་ན། (25) བཅུ་བཞེ།
(5) འདི་ནི། (12) བླ་བ། (19) ལོ་བླ། (26) སྐུ་འདྲ།

(6) བྱོ་བ། (13) ཕྱི་དྲོ། (20) གློ་བ། (27) བྲ་མ།

(7) སྤྱོ་བོ། (14) ལྟ་བ། (21) སྤྲ་སེ། (28) སྐྱོ་བ།

2.8.4 Tone Discrimination: circle the syllable which has a different tone from others

(1) ཤྲི། ཤྲི། ཤྲི། ཤྲི། (6) སྨྲ། སྨྲ། སྨ། སྨྲ།

(2) གངའ། གནའ། གཉའ། གཟའ། (7) དངའ། དགྲ། ངེ། འདའ།

(3) དམའ། བརྡ། བསྟུ། (8) ཐི། ཁི། མི། རྡི།

(4) འགའ། བཀའ། བསའ། (9) དམྱ། བསྟ། མཉའ། བཟླ།

(5) མཐའ། མཛའ། མགའ། མགྲའ། (10) བླ། གཡའ། དབྱ། ཚྭ།

2.8.5 Sound Discrimination: circle the syllable which has a different pronunciation from others

(1) དཀྲ། བསྟྲ། ཐྲ། སྟྲ། (6) ཚ། དམའ། མ། སྨ།

(2) ཁྲ། ཐྲ། ཚྲ། ཏྲ། (7) བརྐ། ཀ། ཀྱ། ཚྭ།

(3) བསྟ། བཟླ། བརྟ། བཀྲ། (8) རྡ། འབྱའ། སྟྲ། བཅའ།

(4) གཅའ། སྟྲ། དཔྱ། ཤྲ། (9) བཀྲ། དབྲ། ཏྲ། འདྲ།

(5) འཚའ། ཚྭ། འཚྭ། བྱ། (10) འགྲ། བསྟྲ། འབྲ། བསྟྲ།

2.8.6 Oral Spelling (I): spell out the syllables

(1) མགོ་བ། (4) ཚུ་བྱ། (7) དགྲ་བླ། (10) དབེ་བོ།

(2) དགོ་རྒྱ (5) མཐེ་མོ། (8) སྟེ་མོ། (11) སྟྲེ་བོ།

(3) སྐྱ་འཕྲོ། (6) བརྡ་ཐོ། (9) ཀུ་སྟྲི། (12) སྟྲ་བདེ།

2.8.7 Oral Spelling (II): Listen to the recording and write down the syllables.

(1) ཀྱི་ཁ། (4) ཚྱི་གྱུ། (7) བརྗེ་བོ། (10) རྗོ་རྗེ།

(2) སྐྱ་མི། (5) སྐྱ་རྩེ། (8) འབྲུ་སྟེ། (11) མཚོ་ཀ།

(3) ཕྱུ་གུ། (6) བྲོ་རྒྱ། (9) རྩོ་ཀོ། (12) གཡུ་ཐུ།

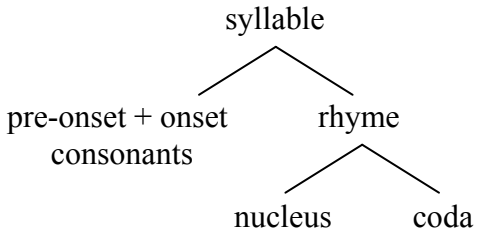
Lesson 3

The Rhyme of the Syllable

❖ 3.1 The Rhyme

3.1 Overview

In Lesson 2 we introduced and analyzed all the consonants in Lhasa Tibetan that can appear in the onset position of a syllable. The structure of a syllable is repeated below:



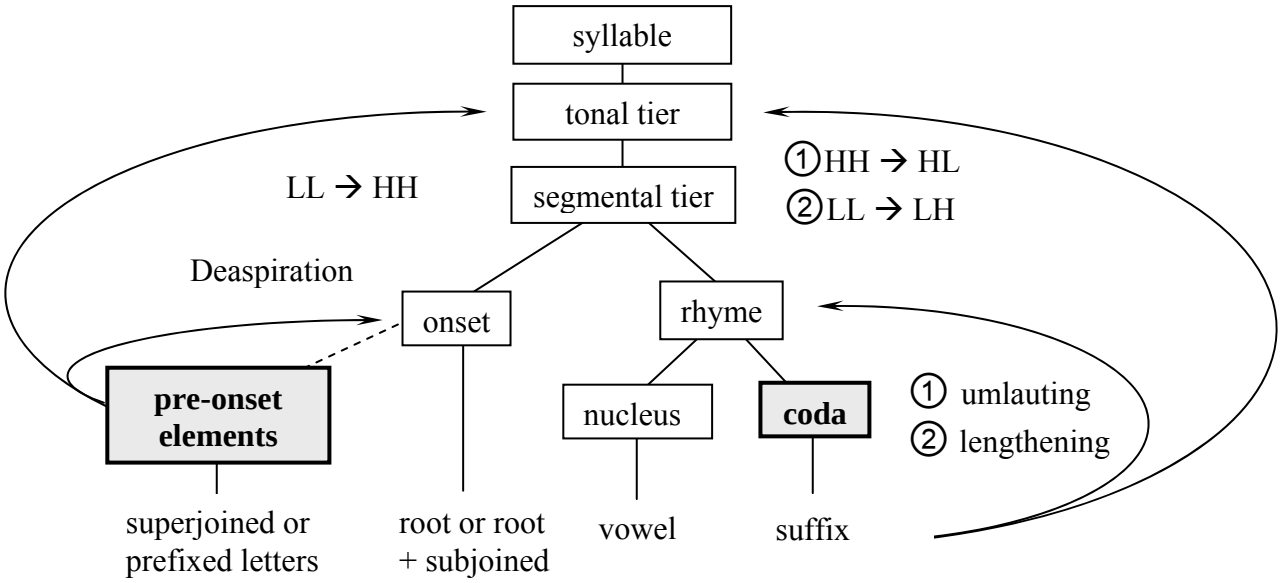
We differentiated true onset elements from pre-onset elements and analyzed how the pre-onset affects the pronunciation of the onset and the tone it denotes. In traditional Tibetan orthographic terms, the onset may be a single root letter or a root letter subjoined by one of the four letters ར, ཡ, ལ, ཝ; the pre-onset element is either a superfix or a prefix or both.

In this lesson, we will analyze the other branch of the Tibetan syllable, the rhyme. As shown in the diagram above, the rhyme consists of two elements: in the center of a syllable is the nucleus, a single vowel. At the right-end, following the vowel in the syllable final position, is the coda. The nucleus is expressed in writing by one of the four vowel diacritics or left empty when it is [a]. The coda position, in Old Tibetan, can accommodate up to two consonants. In the traditional terminology the first consonant in the coda is called the suffix (རྗེས་འཇུག) and the additional one is called the post-suffix (ཡང་འཇུག). The suffix and the post-suffix were believed to have been pronounced as spelled, but much has changed since then. Many of the consonants in the coda position are no longer pronounced in modern Lhasa Tibetan, even though the coda from Old Tibetan is fairly faithfully preserved in the orthography. The gradual silencing of the coda may potentially create a huge number of homophones in the language (just imagine the disaster of *cat*, *cad*, *cap*, *cab*, *car*, and *card* all merging into *ca*), which would definitely cause serious communication problems. That, of course, did not happen. The consonants in the coda position, some of which have disappeared entirely and some on their way out, successfully transformed the phonological system of Tibetan in three significant ways: (i) the vowel system is enriched from the basic five [a, e, i, o, u] to eight (adding [ɛ, ø, ü]); (ii)

the original two-tone (H vs. L) system is enriched to a full-fledged four-tone system; (iii) the rhyme now contrasts in length (long vs. short).

Considering that language evolution is a long and continuous process that took centuries or even millenniums to create significant changes in the system, the above-three aspects in Lhasa Tibetan are truly remarkable. What is even more remarkable (and learners should be appreciative for that) is the faithful preservation of the coda in the orthography. The correspondence between the modern pronunciation in Lhasa Tibetan and the orthography from Old Tibetan is so systematic that, when compared to the English or French spelling and its pronunciation, learners should find the pronunciation rules in Tibetan much easier to follow, even though the orthography was not meant for the new system.

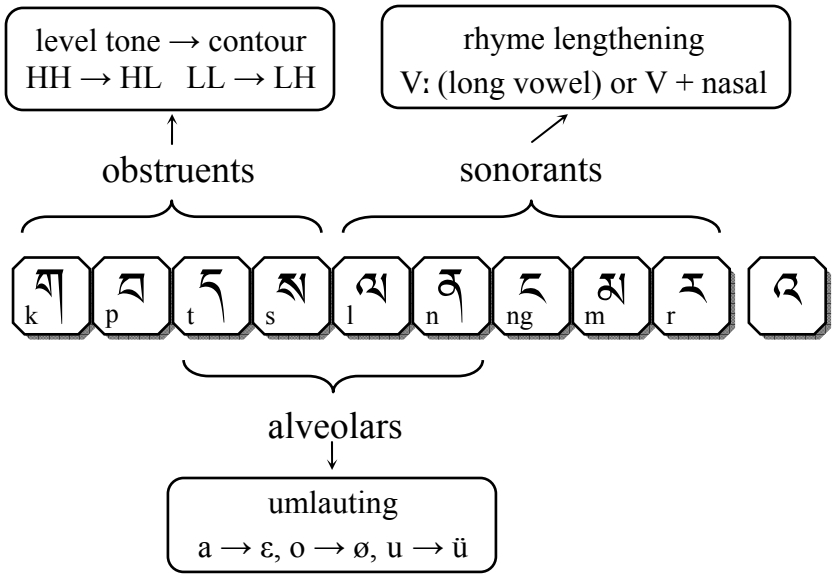
Given below is a general overview of what is encoded in Tibetan orthography. From the left, one sees that a pre-onset element can do two things: deaspirate the third column obstruents (stops and affricates) and raise the tone of sonorants (nasals, liquids, and glides) from LL to HH. That was discussed in detail in Lesson 2. From the right, one sees that a coda element can do three things: on the segmental tier, it may change the quality of the vowel (umlauting) or lengthen the vowel. On the tonal tier, it bends the high tone downward or the low tone upward and creates contour tones. These three effects are the focus of this lesson.



❖ 3.2 Effects of the Coda

There are only ten consonants that can appear in the coda of a Tibetan syllable as the first or sole element. In additional, ར and ས can also serve as the post-suffix in the coda. The ten suffixes are ག, ང, ན, ད, བ, མ, འ , ར, ལ, and ས. འ is a dummy coda that is required for pure orthographic reasons and has no phonetic value nor any impact on the rhyme. The rest can be divided nicely into two groups, namely, the four obstruents (ག, ད, ན, ས)

and the five sonorants (ལ, ན, ང, མ, ར). In terms of place of articulation, four alveolars (ད, ས, ན, ལ) also form a natural group. The effects of the coda can be summarized succinctly as follows: (1) An obstruent (k, p, t, s) creates a contour tone from the original level tone. (2) A sonorant (l, n, ng, m, r) creates a long rhyme. (3) An alveolar (d, s, l, n) causes umlauting (fronting) of the vowel in the nucleus. It would be more convenient if the traditional alphabetical order of the ten suffixes is rearranged into natural groups, as shown below, to show the three effects. The effects of the post-suffix will be discussed in 3.4.

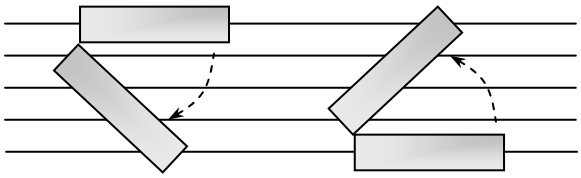


Effects of the Coda

3.2.1 Contour tones

So far we have encountered only the two level tones: high and low. The four obstruent suffixes ག, བ, ད, ས, once pronounced [k, p, t, s] in the coda, are now in Lhasa Tibetan either greatly weakened or completely silent. However, they create a significant change in the tonal system. A high tone HH (55 or 54) with a coda filled with one of the four obstruents is pronounced with a sharp fall (52). A low tone (12 or 113) with such a coda becomes a rising tone LH (132). Recall that the speaker's effort to maintain a flat low portion of 12 or 113 indicates that the nature of the tone is low (LL) and the rising part is the tail. Regarding the new contour 132, also recall that we analyze the longer portion (13 part of the 132) of the syllable as the main body, reflecting its LH nature, whereas the shorter and weaker portion (32), audible in the syllable's citation form, as the unintended tail. Now, ཆ [c^{h}ā] and ཆག [c^{h}à] contrast in their tones (high level vs. falling) and not by how the syllable ends. The final ག [k] in ཆག [c^{h}à] has weakened to a glottal stop in the careful speech of some Lhasa speakers or silent in casual speech. Glottal stop or none, the distinction of the two syllables now resides in the different tonal patterns. Likewise, ཇོ [t^{h}ǒ] (LL, 12) and ཇོག [t^{h}ó] (LH, 132) also contrast in the tonal pattern rather

than the final consonant. The "tone bending" effect of the obstruent suffixes can be visualized as follows:



Effect of Obstruent Suffixes ག, ད, ད, ས

Together with the original two level tones, now Lhasa Tibetan functions with a complete four-tone system as we discussed earlier in Lesson 1.

3.2.2 Umlaut vowels

The four alveolar consonants ད, ས, ན, ལ, when in the coda position, trigger a change in the preceding vowel in the nucleus position. The change is a common process of vowel fronting, or umlauting, where the three back vowels [a, o, u] become [ɛ, ø, ü], their frontal counterparts. The three new vowels enrich the original five-vowel system to a total of eight vowels. This enrichment was necessary as syllables such as པ [p^{h}ā] and པལ [p^{h}ɛ̄ː], at the loss of pronunciation of [l] in the coda, now contrast mainly by their vowels. (The lengthening of the vowel [ɛ̄ː] will be discussed shortly.)

Note that the first two members of this umlaut-triggering alveolar group ད and ས also belong to the tone-bending obstruent group. This means that ད or ས as a coda changes the vowel quality and the tone simultaneously. For example, while པལ [p^{h}ɛ̄ː] remains a high tone, པད [p^{h}ɛ̀] has a falling tone, on top of the effect of umlauting. More examples: (Note that the examples involving the suffix ད or ས exhibit umlaut and tone change.)

(1) ཟས [sɛ́] vs. ཟ [sǎ]

(2) མི་ད [mí] vs. མི [mǐ]

(3) ཕུད [p^{h}ù] vs. ཕུ [p^{h}ū]

(4) དེད [t^{h}é] vs. དེ [t^{h}ě]

(5) ཆོས [c^{h}ǒ] vs. ཆོ [c^{h}ō]

Examples (6) to (10), with the suffix ལ or ན, exhibit umlaut and vowel lengthening but no tone change.

(6) ཚོན [ts^{h}ø̄ːn] vs. ཚོ [ts^{h}ō]

(7) ཤེན [sh^{h}ē:n] vs. ཤེ [sh^{h}ē]

(8) སིལ [sī:] vs. སི [sī]

(9) ལན [lĕ:n] vs. ལ [lă]

(10) ཕུལ [p^{h}ū̃:] vs. ཕུ [p^{h}ū]

3.2.3 Long rhyme

Languages such as English make no distinction between a long vowel and a short vowel. It is always the vowel quality that provides the contrast. Therefore, even though the vowel [i] in *lead* is longer than the [ɪ] in *lid*, the contrast lies mainly in the different qualities between [i] and [ɪ], not the difference in duration. In fact, native speakers of English tend to ignore the difference in duration, unable to hear, for instance, that the vowel [i] in *feed* is longer than the same vowel in *feet*. In some languages such as Japanese, the duration of the vowel is extremely important because two syllables of the same segments, for example, [mo] (short) and [mo:] (long) can contrast in meaning because of their difference in duration just like English words *lake* and *lack* in vowel quality. The duration of a Japanese syllable can be measured as one-unit long or two-unit long, the unit being known as a mora. A Japanese syllable ending with a long vowel is two-mora long, or bimoraic, a vowel + nasal rhyme is also two moras in duration. For instance, [mo] is one-mora long; [mo:] and [mon] are both bimoraic. What is common between [mo:] and [mon] is that both have a long rhyme, as opposed to the short rhyme in [mo].

As Lhasa Tibetan evolved into its current stage, the length of the vowel has become a distinctive feature. The five sonorant suffixes (ལ, ན, ང, མ, ར) make the syllable longer than a syllable without a suffix or with an obstruent suffix (ག, ད, ད, བ). This development is typical in human languages. For example, the English words *fey* [fe], *fate* [fet] are shorter than *fail* [fel], *feign* [fen] and *fame* [fame]. Now imagine that the coda [l] of *fail* has gone silent. One possible result is that the two words *fey* and *fail* now simply merge as homophones. The other possibility is to preserve the original longer duration of *fail* to contrast with the shorter *fey* (i.e. *fail* [fe:] vs. *fey* [fe]). This second scenario is exactly what took place in Lhasa Tibetan. The orthography still records the original pronounced suffixes ལ and ར, but they are now (largely) silent, leaving their trace by lengthening the preceding vowel. The following pairs indicate that the length of the vowel has become contrastive.

(1) ཏར [tā:] vs. ཏ [tā]

(2) བར [pā:] vs. པ [pā]

(3) མར [mă:] vs. མ [mă]

It is important to know that the lengthened vowel is not just slightly longer than the corresponding short one but rather double in length. Hu's investigation in 1979 indicates that long rhymed syllables average 0.32 seconds in duration vs. the 0.13 to 0.18 seconds

for various types of short syllables, an experimental fact that supports the moraic analogy drawn from Japanese.

Recall that, of the five sonorants, ལ and ན, being alveolar, also trigger umlauting in the vowel; therefore, syllables with a suffix ལ or ན may also contrast with ones without in both vowel length and vowel quality. For example:

(4) རྟོལ [tɵ̄ː] vs. སྟོ [tō]

(5) ཕཡ [pʰɛ̄ː] vs. ཕ [pʰā]

(6) ལན [lɛ̆ːn] vs. ལ [lă]

(7) བདུན [tŭ̄ːn] vs. གཏུ [tŭ]

Note that the alveolar nasal suffix ན lengthens the vowel and nasalizes it at the same time, so much so that the [n] in the coda position becomes very weak in some words. For ease of notation, we will keep the [n] in the coda for phonetic transcriptions in this textbook, but readers should bear in mind that the vowel preceding ན is nasalized.

The other two nasal sonorants, ང and མ, not being alveolar consonants, do not trigger umlauting but they do make the rhyme long (bimoraic). They are pronounced as a regular syllable final nasal [ng] and [m], respectively. Examples:

(8) ཁམ [kʰāːm] vs. ཁ [kʰā]

(9) ཐིམ [tʰīːm] vs. ཐི [tʰī]

(10) ཁོང [kʰŏːng] vs. ཁོ [kʰŏ]

Although the actual length of the vowel before ང or མ is not lengthened, averaging 0.16 seconds just like a short syllable, the entire rhyme (V+nasal) approaches 0.32 seconds, exactly the same duration of a long vowel (V:). Thus, all five sonorant suffixes ལ, ན, ང, མ, ར create a long rhyme in their own way: ལ and ར lengthen the vowel but are not pronounced; ན lengthens and nasalizes the vowel and is pronounced; finally, ང and མ do not lengthen the vowel but, because they are pronounced, make the rhyme long. We will see that the notion of long rhyme is important when we later discuss the effects of the post-suffix and one of the tone sandhi rules.

3.2.4 The Two Post-Suffixes འ and ད

Historically, there were two post-suffixes: ད and འ, which are really the two variants of the same morpheme attached to verbs. ད appears after alveolar suffixes such as ན་ར་ལ, while འ is found attached to one of the four non-alveolar suffixes ག, བ, ང, མ.

The post-suffixes ད and འ, being alveolar obstruents, should have the same effects on the rhyme as the suffixes ད and འ, changing the level tone to a contour tone (tone bending)

and the back vowels [a,o,u] to [ɛ,ø,ü] (umlauting). Because དྲ and སྲ, being post-suffixes, are never adjacent to the vowel; they do not seem to have any direct influence on the vowel. Therefore, there is no umlauting by the post-suffix. All umlaut vowels are created by an alveolar first-suffix (ད, ས, ན, ལ). On the tonal tier, the post-suffix should exhibit the tone-bending power just as one has observed in the four first-suffix གཱ་བ་དཱ་ས. In words such as ཚགས [ts^{h}à], རོགས [ró], ཤུབས [shùp], ལོངས [lóp], the tone has already changed to falling or rising due to the first-suffix ག and ང, so the post-suffix has no impact on the pronunciation. The four examples above have identical pronunciations of ཚག [ts^{h}à], རོག [ró], ཤུབ [shùp], ལོང [lóp]. The post-suffix exhibits its tone bending effect when attached to a first-suffix that does not affect the tone, namely, one of the five sonorants ལ, ན, ང, མ, ར. Given the complementary distribution of ད and ས, the possible combinations are -ལད, -ནད, -ངས, -མས, and -རད. Here are some examples:

(1) ཕྱིན་ད [c^{h}ìn] vs. མཆིན [c^{h}ī:n]

(2) ཁམས [k^{h}àm] vs. ཁམ [k^{h}ā:m]

(3) ཁོངས [khòng] vs. ཁོང [khō:ng]

(4) ཉམས [nyám] vs. ཉམ [nyă:m]

Clearly, the words on the left column have contour tones (rising or falling) with a post-suffix, while the right column all have level tones. There is another significant change that comes as a side-product of the tone change caused by the post-suffix. Recall that sonorant suffixes (ལ, ན, ང, མ, ར) make the rhyme long (bimoraic); yet, contour tones in Lhasa Tibetan are short in duration (i.e. one mora). Thus, adding a post-suffix to a nasal coda shortens the duration of the syllable considerably while changing the level tone to a contour. For ease of differentiation, we will notate this moraic contrast by marking the long rhymed syllables with a long vowel (e.g., ཁམས [k^{h}àm] vs. ཁམ [k^{h}ā:m]) in this textbook.

From the above discussion, we can see that ད and ས cause the same tonal effect. At the time when the suffix ད had become silent from the post-suffix position, its allomorph ས was still pronounced. An unwise orthographic reform rule was made, which decided to leave out the silent post-suffix ད from the writing while keeping the same morpheme ས. This decision was truly unfortunate because, now that both ད and ས are silent in modern Lhasa Tibetan, we can only predict the contour tone from syllables ending with the post-suffix ས. Those which ended with the post-suffix ད no longer offer any orthographic clue. For instance, the example in (1) ཕྱིན་ད [c^{h}ìn] 'went' is changed in modern writing as ཕྱིན

[c^{h}ìn] (falling tone, short rhyme) due to the orthographic reform mentioned above. As one can see, from the current spelling, it is easy to be mispronounced as *[c^{h}īːn] (high level tone, long rhyme). The learner simply needs to remember these "irregular" pronunciations with an invisible ད. This bit of inconvenience should not bother the learners of this textbook, for we will note the special pronunciation of this type of words (words with the invisible ད) at their first appearance in the textbook.

3.3 Remarks on the Ten Suffixes

3.3.1 ག and ད: contour tone

The non-alveolar stops ག and ད only cause tone changes from level to contour. The status of the bilabial suffix ད is stable. It is consistently pronounced as an unreleased [p], for example, ཁབ [k^{h}àp], ལབ [lápˀ], ཤིབ [sh^{h}ìp], ཡིབ [yíp], སུབ [sùp], རུབ [rúp], ཐེབ [t^{h}èp], དེབ [t^{h}épˀ], ཤོབ [shòp], ཁོབ [k^{h}óp], etc. Note that when the vowel is [a], such as in the first two syllables, ད raises the [a] slightly to sound like a schwa [ə]. This is not a contrastive new phoneme in the system, but we will notate this sound variation for the convenience of the reader. Another phonetic effect created by the unreleased [p] is the very short rhyme of the V + ད sequence, averaging 0.12 seconds, much shorter than all the other short rhyme syllables.

Compared to ད, the suffix ག is less predictable. In most words, this suffix is reduced to a weak glottal stop [ʔ], so the truly audible difference between ཁ [k^{h}ā] and ཁག [k^{h}àʔ] is the tone. Some speakers from Lhasa also compensate the loss of ག in the coda position by lengthening the vowel while maintaining the falling tone. For these speakers, words such as སྟག [tà] 'tiger' and ལྕགས [cà] 'iron' are pronounced as [tàː] and [càː], respectively. This lengthening is also observed in disyllabic words such as ཐོག་ཁ [t^{h}ōːkā] 'upstairs' from ཐོག [t^{h}ò] and ཁ [k^{h}ā].

The suffix ག also shows more resilience in some words than others. For example, the suffix ག in གཅིག [cìk] 'one' is preserved in modern spoken form. This is particularly common in disyllabic words ($\sigma_1\sigma_2$) where ག is the suffix of σ_1. Examples: (For tone changes of these examples, see 3.5.2)

(1) ཚིག་རྙ་པར [ts^{h}à] + [pāː] → [ts^{h}ākpāː] 'newspaper'

(2) ལག་པ [lá] + [pā] → [lǎkpā] 'hand, arm'

In some disyllabic combinations, especially when the second syllable is the morpheme པོ་ [pō], ག may even optionally (in casual speech) be pronounced as the onset of the second syllable, replacing the original [p]. (One can also view this phenomenon as the weakening of [p] and the consequent resyllabification of the [k] in the coda of σ_1 to be the onset of σ_2.) For example:

(1) ཡག་པོ་ [yǎkpō] alternates with [yǎkō] 'good'

(2) ཐིག་པོ་ [t^{h}īkpō] alternates with [t^{h}īkō] 'accurate, correct'

These unpredictable pronunciations are all marked in our phonetic transcriptions. Finally, recall that the two suffixes ག and ད also take the post suffix ས, but གས and དས affect the tone just like the single suffix ག and ད.

3.3.2 ད and ས: contour tone and umlaut

Being alveolar obstruents, the two suffixes ད and ས simultaneously cause umlauting on the preceding vowel and the contour tone. Unlike ག and ད, which can still surface in some phonological context as we just described, ད and ས, a faint glottal stop for some and completely silent for others, never surface as [t] and [s] in any phonological context Their trace is audible only in the contour tone and the possible umlaut vowel they produce: ཆད or ཆས [c^{h}è], ཟད or ཟས [sé], ཤིད or ཤིས [shì], མིད or མིས [mí], ཕུད or ཕུས [p^{h}ǔ], ལྷད or ལྷས [lǘ], ཚེད or ཚེས [ts^{h}è], དེད or དེས [t^{h}é], ཐོད or ཐོས [t^{h}ǒ], ཡོད or ཡོས [yǿ].

There has been a widely circulated idea that umlaut vowels in Tibetan are all long. This assumption is incorrect, given the acoustic phonetic experiment done by Tan and Kong (1991). In their study, umlaut vowels created by alveolar obstruents ད and ས pattern with short rhyme syllables with an average duration of 0.18 seconds, as opposed to the umlaut vowels created by alveolar sonorants ལ and ན, which are almost twice as long, for example, རྒོལ [tōː] and རྒོད [tǒ].

Finally, ད and ས do not take post-suffixes, which would have been themselves.

3.3.4 ར: vowel lengthening

Generally speaking, the suffix ར lengthens the vowel but is not pronounced itself. It does not trigger umlauting nor affect the tone. In careful "literary reading", the lengthened [Vː] can be restored to [Vr], but whether with the colloquial [Vː] or the literary [Vr], the rhyme remains long. Note that the [r], when pronounced, is either like an approximant [r] in the English word *car* or a slight trill. While the majority take the long vowel [Vː] for the spoken form, such as པར [pāː] 'over there'; it is not uncommon that some individual

words tend to stick to the [Vr] version, such as པར [pār] 'photo', ཤར [shār] 'east', པི་ར [pīr] 'Chinese brush pen'. It is difficult to predict.

In some disyllabic words ($\sigma_1\sigma_2$) where ར is the suffix of σ_1, the [r] sound habitually surfaces. Again, there is no rule to predict when this [r] is pronounced. The word མར [mă:] 'butter' offers a number of good examples:

(1) མར་སྐ [mă:] + [kā] → [mărkā] 'box for keeping butter' (with [r])

(2) མར་ཀཱ [mă:] + [kà] → [mă:kà] 'a type of butter container' (with long vowel)

(3) མར་དཀར [mă:] + [kār] → [mărkār] 'white butter' (with [r])

(4) མར་གྲིན [mă:] + [trī:n] → [mə:trí:n] 'vegetable oil' (with long vowel)

(5) མར་ནག [mă:] + [nă] → [mărnà] 'vegetable oil' (with [r])

The best way to deal with the situation is to learn Lhasa Tibetan's preference, as shown in our phonetic transcriptions, on a case by case basis.

The suffix ར used to take the post-suffix ད, written in Old Tibetan as the coda རད, e.g., ཐར་ད 'relieved from'. It is no longer written in Modern Tibetan and there seems to be no known cases where this (invisible) ད causes any change on the pronunciation.

3.3.3 ལ and ན: umlaut and vowel lengthening

Alveolar sonorants ལ and ན trigger umlauting on back vowels [a, o, u] and lengthen all vowels. Only in careful literary reading, the [l] may be pronounced. ལ and ན do not affect the tone. Examples: ཁལ [k^{h}ē:], ཉལ [nyĕ:], ཤིལ [shī:], སིལ [sĭ:], སྲུལ [sū̆:], ཕུལ [p^{h}ŭ:], ཚེལ [ts^{h}ē:], མེལ [mĕ:], ཐོལ [t^{h}ō:], ཉོལ [nyŏ:]. In the case of the suffix ན, it nasalizes the vowel while itself being pronounced in the coda. Since the nasalization is entirely predictable from the [n] in the coda, we opt not to add more diacritic markings on the vowel, which already carries a tone mark. Examples of ན as the suffix: ཕན [p^{h}ē:n], མན [mĕ:n], ཆིན [c^{h}ī:n], ཡིན [yĭ:n], ཤུན [shū̆:n], ཡུན [yŭ:n], ཤེན [shē:n], ལེན [lĕ:n], ཐོན [t^{h}ō:n], ཁོན [k^{h}ŏ:n]. That the vowel preceding ན is marked long may be considered by some learners redundant, but it is intended to remind the learner that the rhyme is long. Another reason for the [:] marking is that the post-suffix ད, now omitted from orthography, makes the vowel short and change the tone in certain words. Here is our favorite example: ཕྱིན [c^{h}ìn] 'went', shown with falling tone and short vowel, caused by the once overt post-suffix ད.

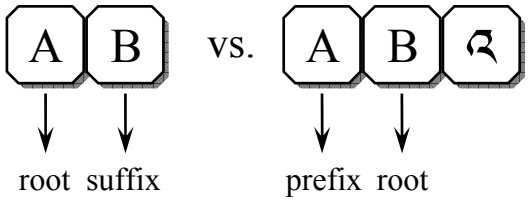
3.3.5 ང and མ: rhyme lengthening

The two nasal sonorants ང and མ are pronounced in the coda position. They do not lengthen the vowel per se but nonetheless make the rhyme long simply by adding themselves to it. (The vowel before [m] or [ng] measures 0.16 seconds, identical to the length of vowel in ཁ [k^{h}ā], yet the whole syllable of ཁམ [k^{h}ā:m] measures doubly long.) We mark the long rhyme syllables with the suffixes ང and མ as [V:m] and [V:ng], even though the vowel itself is not particularly long. Examples: ཐང [t^{h}ā:ng], ཤིང [shī:ng], མིང [mǐ:ng], ཁུམ [k^{h}ū:m], སེམ [sĕ:m], etc.

As we commented in the previous section, these two suffixes are the ones that take the post-suffix ས and receive an impact on the tone and the duration of the rhyme. Syllables which end with ངས or མས all have a contour tone and a short rhyme, with [Vm] and [Vng] shrinking to a mere 0.20 seconds. See the examples in 3.2.4.

3.3.6 འ : orthographic purpose only

The suffix འ, strictly speaking, is not a suffix at all. It is required by Tibetan orthography as a spelling convention for readers to identify the root letter of the syllable. The raison d'être of the suffix འ rests solely in a situation when two letters, say A and B, are horizontally adjacent to each other without a vowel diacritic to indicate which letter of the two is the root. Presumably, if A is a potential prefix for B and at the same time B is a potential suffix for A, then the combination AB is ambiguous in that one may take A as the prefix and B the root letter or A as the root letter and B the suffix. The reason of adding འ to the string AB is to remove this ambiguity. For example, མ and ད together (མད) presents the ambiguity problem just discussed. It would be equally possible to read it either as [tă], taking མ as prefix or as [mé] taking ད as suffix. Tibetan orthographic rules stipulate that: (i) A syllable of the shape AB, without any vocalic marking by the vowel diacritics, the first letter (i.e. A) is the root letter. (ii) In case that B is the root letter, འ must be added. The two rules are summarized below:



Given the above orthographic rules, the syllable མད becomes unambiguous. It must be read as [mé]. If ད were to serve as the root letter, the syllable would need to be spelled as མདའ [tă]. Note that there is no phonetic value of the suffix འ, which is different from the prefix འ, a true (although latent) nasal consonant that could surface. On a side note, the

rule is originally meant to clarify the root letter from ambiguous combinations discussed here, it should not be required for non-ambiguous AB sequence, such as བཀ, where only ཀ can be taken as the root because it cannot be a suffix. Yet, the rule stipulates that the suffix འ be added, rendering བཀའ, creating a little harmless redundancy in the spelling.

Note that, when the vowel is marked by a diacritic, one need not, in fact cannot, use the suffix འ, for the vowel diacritic already identifies the root letter, making it pointless to add འ. For example: དར has the shape of AB, ད is a potential prefix and ར is a potential suffix, but according to the rules of orthography, the syllable is unambiguously read as [thă:], with the first letter interpreted as the root letter. དེ, on the other hand, treats the second letter as the root letter simply because it has a vowel diacritic above it. It reads as [pē] and no suffix འ is needed nor allowed.

Sometimes one finds འ with a vowel diacritic such as ིའ and ུའ appearing in a suffix position. They are not suffixes but rather separate morphemes contracted in writing to the open syllable in front. We will discuss these special cases in 4.2.1.

❖ 3.7 Oral Spelling (II): Syllables with Suffix

In the oral spelling section of Lesson 2, we learned two words འོག [wò] and བཏགས [tà]. The former links the prefix and what follows, the latter signifies the vertical "hanging" relation of two letters (superfix and root or root and subscript). Review: དགྲ 'enemy' spells [t^{h}ăwò | kă ră tà tră].

The sequence of the vowel and the suffix(es) in the coda does not require a relation-defining word in the oral spelling of Lhasa Tibetan. When the vowel is the default [a], the spelling cannot be easier, for example: ཕལ spells [p^{h}ā lă p^{h}ɛ̄:], the effect of umlaut and vowel lengthening are duly noted in the final output [p^{h}ɛ̄:]. If there is a tone change, it is also reflected in the output, for instance, ཐག spells [t^{h}ā k^{h}ă t^{h}à]. The tone of the suffix itself becomes neutral (unstressed and therefore reduced) during the oral spelling, so the above two examples can be better noted as [p^{h}ā la p^{h}ɛ̄:] and [t^{h}ā k^{h}a t^{h}à]. However, when there is a post suffix ས in the syllable, the first suffix becomes somewhat stressed: ཐགས spells [t^{h}ā k^{h}ăsa t^{h}à] and the ས loses its tone. Another example, མཚམས spells [măwò ts^{h}ā măsa ts^{h}àm]. Note that the post-suffix ས causes the falling tone. Recall that the suffix འ is required only in an ABའ sequence, the spelling reads A-wò-B-a plus output. For example, བཀའ spells [p^{h}ăwò kā a kā].

When the vowel is not the default [a] and there is a diacritic that needs to be spelled out, the oral spelling becomes tricky. Take བྱལ for example. The spelling is expected to

be (the incorrect) *[p^{h}ă shŏpcū p^{h}ŭ la p^{h}ŭ̆ː], [p^{h}ŭ] being the pronunciation of བྱུ and the input to the suffix ལ, which then triggers umlauting and renders the final output of [p^{h}ŭ̆ː]. The correct spelling is [p^{h}ă shŏpcū **p^{h}ŭ̆ː** la p^{h}ŭ̆ː], with the final output said twice, once before the suffix(es) and once more at the end. In other words, the speaker jumps the gun right after the diacritic vowel by giving the final reading (adding all the effects on the rhyme the suffix can cause) before he even spells the suffix. Here is another example: ཆོས spells [c^{h}ā nărō **c^{h}**ŏ sa c^{h}ŏ] and not *[c^{h}ā nărō c^{h}ō sa c^{h}ŏ], the intermediate stage ཆོ [c^{h}ō] being "jumped". More examples:

(1) ཁྱངས: [k^{h}ā shŏpcū k^{h}òng ngăsa k^{h}òng] (post-suffix causes the falling tone)

(2) ལེན: [lă trĕngpō lĕːng na lĕːng] (vowel lengthening)

(3) མིས: [mă k^{h}ĭ̆kū mí sa mí] (contour tone)

(4) གོམས: [khă nărō k^{h}óm măsa k^{h}óm] (contour tone)

Obviously, with regard to "jumping the gun", the spelling rule treats words without a vowel diacritic differently. In the following pair of words, even though the suffix ར lengthens the vowel in both cases, only the second word འབྲུར, with the vowel [u], gets to repeat the output twice [k^{h}ūː ra k^{h}ūː].

(5) བཀར spells [p^{h}ăwò kā ra kāː] (not *[p^{h}ăwò kāː ra kāː])

(6) འབྲུར spells [ăwò k^{h}ā shŏpcū k^{h}ūː ra k^{h}ūː] (not *[k^{h}ū ra k^{h}ūː])

Besides this minor inconsistency, the oral spelling is an excellent way for a learner to remember the orthography. The effects of the prefix/superfix (deaspiration and tone change) and the effects of the suffix and post-suffix (contour tone, umlaut, long rhyme) are all reflected in the oral spelling. Practicing oral spelling will also help internalize these phonological changes. The following examples offer practice, from prefixes to post-suffixes.

(10) སྐྱང [kā rătà trā | shŏpcū trōːng nga trōːng]

(11) བསྒྲེབས [p^{h}ăwò sā lătà lā | trĕːngpō lèp | p^{h}ăsa lèp]

(12) སྐྱོགས [sā kătà kă | yătà kyă | nărō kyó | k^{h}ăsa kyó]

(13) སྤྱང [sā pătà pă | yătà că | nga căːng]

The last one, སྤྱང, a bilabial with ཡ་བཏགས presents one of the most challenging cases in oral spelling for foreign learners. We shall have a few more for practice:

(14) ཕྱོགས [p^{h}ā yătà c^{h}ā | nărō c^{h}ò | k^{h}ăsa c^{h}ò]

(15) དབྱིབས [tʰăwò wā | yătà rā | kʰĭkū rìp | pʰăsa rìp]

(16) དབྱངས [tʰăwò pā | yătà cā | ngăsa càng]

(17) དབྱིན [tʰăwò wā | yătà yā | kʰĭkū yīːn na yīːn]

To conclude the oral spelling exercise, let's try the "full-house" syllable བསྒྲིགས: [pʰăwò sā | kătà kă | rătà tră | kʰĭkū trí | kʰăsa trí].

3.2.7 Summary

3.2.7.1 Pronunciation of all rhymes: vowel changes are indicated with shading.

Manner	Obstruents				Sonorants					dummy
Place			Alveolars							
suffix / effect	ག	བ	ད	ས	ལ	ན	ར	ང	མ	འ
pronounced	(k)	-p	-	-	(l)	-n	(r)	-ng	-m	-
umlaut	-	-	✓	✓	✓	✓	-	-	-	-
long rhyme	-	-	-	-	✓	✓	✓	✓	✓	-
tonal change	✓	✓	✓	✓	-	-	-	-	-	-

		ག	བ	ད	ས	ལ	ན	ར	ང	མ	འ
ཨ [a]	H	[à]	[ə̀p]	[ɛ̀]	[ɛ̀]	[ɛ̄ː]	[ɛ̄ːn]	[āː]	[āng]	[ām]	[ā]
	L	[á]	[ə́p]	[ɛ́]	[ɛ́]	[ɛ̆ː]	[ɛ̆ːn]	[ăː]	[ăng]	[ăm]	[ă]
ཨི [i]	H	[ì]	[ìp]	[ì]	[ì]	[īː]	[īːn]	[īː]	[īng]	[īm]	[ī]
	L	[í]	[íp]	[í]	[í]	[ĭː]	[ĭːn]	[ĭː]	[ĭng]	[ĭm]	[ĭ]
ཨུ [u]	H	[ù]	[ùp]	[ù]	[ù]	[ū̄ː]	[ū̄ːn]	[ūː]	[ūng]	[ūm]	[ū]
	L	[ú]	[úp]	[ű]	[ű]	[ŭː]	[ŭːn]	[ŭː]	[ŭng]	[ŭm]	[ŭ]
ཨེ [e]	H	[è]	[èp]	[è]	[è]	[ēː]	[ēːn]	[ēː]	[ēng]	[ēm]	[ē]
	L	[é]	[ép]	[é]	[é]	[ĕː]	[ĕːn]	[ĕː]	[ĕng]	[ĕm]	[ĕ]
ཨོ [o]	H	[ò]	[òp]	[ø̀]	[ø̀]	[ø̄ː]	[ø̄ːn]	[ōː]	[ōng]	[ōm]	[ō]
	L	[ó]	[óp]	[ǿ]	[ǿ]	[ŏː]	[ŏːn]	[ŏː]	[ŏng]	[ŏm]	[ŏ]

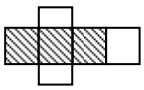
3.2.7.2 Orthography: distribution of the alphabet

Literate Tibetan speakers consciously know which letter of the alphabet goes to which position in the syllabic writing. They learn to memorize the distribution of letters in first grade. The following chart shows their distribution.

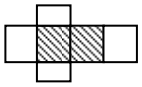
letter	suffix	prefix	superjoined	subjoined	post-suffix
ག ད། བ། མ། འ།	✓	✓	-	-	-
ན། ང་།	✓	-	-	-	-
ར། ལ།	✓	-	✓	✓	-
ས།	✓	-	✓	-	✓
ཡ། ཝ།	-	-	-	✓	-

Alternatively, the information can be translated into the diagrams below, which should be able to help the learner visualize this bit of linguistic knowledge about the orthography. The letters listed in each number have the distribution in the shaded positions. Note that all thirty letters can appear in the position of the root letter.

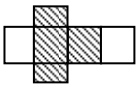
(1) ག ད། བ། མ། འ།



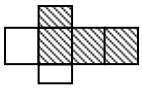
(2) ན།ང་།



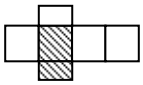
(3) ར། ལ།



(4) ས།



(5) ཡ། ཝ།



❖ 3.4 Finding the Root

Finding the root letter is very simple. The first and foremost principle is to spot a letter X that carries a vowel diacritic or is joined (i.e. superjoined or subjoined) by another letter. If such a letter exists in the syllable, it is the root letter. The root letter (plus the subjoined letter if any) is the onset of the syllable.

Tibetan makes no diacritic marking for the vowel [a]. This design in writing, although following the principle of economy, in fact creates a little complication for learners to find the root letter when the vowel is [a]. Again, if the root letter is superjoined or subjoined by another letter, the root letter becomes easy to spot, as we just mentioned. However, if there is no sub- or superjoiners to help out, how does one identify the root letter from a completely linear sequence? Here is a simple set of rules to remember:

(1) If the sequence is AB, A is the root letter.
(2) If the sequence is ABCD, B is the root letter.
(3) If the sequence is ABC, B is the root letter, unless C is the post-suffix ས and B is one of the four letters: ག, ང, ད, and མ, in which case, A is the root letter.

We have discussed rule (1) in section 3.2.5 regarding the function of འ as a suffix. Rule (2) simply derives from the fact that there is only one element ས that can follow a suffix, so ABCD must have the shape: prefix-root-suffix-ས. Rule (3) recognizes the two possibilities that either (i) C is a regular suffix, in which case, B is the root; or (ii) C is the post-suffix ས, indicated by the four compatible suffixes with ས, in which case A is the root. Take གཟའ་ས་སངས *Friday,* for example. The syllable སངས is of the form ABC. There are in fact two ways to tell that it is pronounced [səng] and not [nge] with the first ས (and not ང) being the root letter. First, the rightmost ས follows one of the four suffixes ག་ང་ད and མ, described in (3), so it is the post suffix. Second, the first ས is not one of the possible prefixes, so it has to be the root. Either way of looking at it, the orthography leaves no ambiguity.

Need we say anything about spotting the root letter in a simple syllable like ཀ or ཁ?

❖ 3.5 Foreign Loan Words and Inverted Letters

Traveling to any part of the Tibetan-speaking world, one will undoubtedly encounter the six-syllable prayer ཨོཾ་མ་ཎི་པདྨེ་ཧཱུྃ། *om mani pad me hom* carved, painted, or written everywhere. In this ubiquitous mantra are some unusual elements that we have not covered so far. These irregular elements in writing are of little practical value in our studies of the modern spoken language, as they are intended as mechanisms to transcribe ancient Sanskrit religious text into Tibetan. One should nevertheless know just enough about them.

Six "new" letters, ཪ, ཬ, ཫ, ཭, ཮, and ཬཱ, are created by inverting the letters ཧ, ར, ཝ, ན, ཤ, and ཥ, writing them in a reversed direction. These are intended to mark the so called cerebral consonants (mostly retroflexive alveolars) in Sanskrit. Some Sanskrit long vowels are represented in literary Tibetan by using a small འ beneath a root letter like ཨཱ to denote the increased length of the vowel. For [ee] and [oo], simply double the vowel diacritics to ཨཻ and ཨོོ. The syllable final [m] in Sanskrit is represented by a small circle on top of the root letter. This is the circle we see in the first syllable of the six-syllable mantra: ཨོཾ.

Sanskrit has aspirated voiced consonants (mostly stops) such as *gh*, *dh*, *bh*, *jh*, *drh*, etc. These are conveniently represented in Tibetan by using ཧ as the subjoined letter, creating combined letters such as གྷ, ཌྷ, དྷ, བྷ, ཛྷ, etc. Words of Sanskrit origin do not really concern the learner unless he or she plans to go on and study religious texts in Tibetan Buddhism. However, it might be worthwhile to learn to discern these irregular written forms from the regular ones.

Non-religious modern foreign loan words are represented by the regular 30 letters. As, we have mentioned, the consonant [f] does not exist in Tibetan, a new combination ཕྷ

having been created to stand for [f].

❖ 3.7 Exercises

3.7.1 Pronunciation Drill (I): syllables with suffixes ད and ག. Pay attention to the tonal change

(1) དེབ།	(7) ཚགས།	(13) ཞེབས།	(19) ཞིབ།	(25) སྟེབས།
(2) མཇུག་ས།	(8) ཟིག	(14) འདུག	(20) ལོག་ས།	(26) རབས།
(3) སྟོབ།	(9) ཐིག	(15) རྒྱབ།	(21) དེག	(27) འགྲིག
(4) ཐུགས།	(10) གོག་ས།	(16) ཤོག	(22) ལག	(28) ཆིབས།
(5) གཡག།	(11) ཐུབ།	(17) གྲིབ།	(23) བཏབ།	(29) འདབས།
(6) གྲུབ།	(12) ལག་ས།	(18) ཕྱུག	(24) གཟུག་ས།	(30) བསྟབས།

3.7.2 Pronunciation Drill (II): syllables with suffixes ད and ས. Pay attention to the vocalic and tonal change

(1) སྐད།	(7) ཞྭེད།	(13) ཚོད།	(19) སྐྱིད།	(25) ཚེས།
(2) བོད།	(8) མེད།	(14) དབུས།	(20) བརྒྱད།	(26) མིད།
(3) དུས།	(9) བས།	(15) སྲིད།	(21) རྗེས།	(27) སྐྱེས།
(4) ཆོས།	(10) གཞིས།	(16) ནུས།	(22) དགོས།	(28) མཆོད།
(5) ངས།	(11) འཕྲིས།	(17) འོད།	(23) རེད།	(29) དུད།
(6) གཉིས།	(12) སུད།	(18) རྒྱད།	(24) ཤེས།	(30) སྐྱད།

3.7.3 Pronunciation Drill (III): syllables with suffixes ན, ལ and the contraction of འི. Pay attention to the vocalic, moraic, and tonal change

(1) ཆེན།	(7) འཛོན།	(13) དགོན།	(19) འབོལ།	(25) དབྱིན།
(2) མདུན།	(8) དཀྱིལ།	(14) ཁུལ།	(20) བདུན།	(26) སྐྱོན།
(3) ཁྲན།	(9) གསལ།	(15) དངུལ།	(21) དཔོན།	(27) རིལ།
(4) ཡུལ།	(10) ལེན།	(16) བྱེལ།	(22) སྐྱེལ།	(28) སྲིད།
(5) གསོལ།	(11) མན།	(17) ཤེལ།	(23) ངའི།	(29) ཀོའི།

(6) བལ། (12) ཐྱོན། (18) ཀུན། (24) ཚན། (30) དེའི།

3.7.4 Pronunciation Drill (IV): syllables with suffixes ང, ར, and ས. Pay attention to the moraic, and tonal change (when there is a post-suffix).

(1) ཆང་། (9) ཁོར། (17) ཁམས། (25) རྒོང་། (33) ཐྲིམ།

(2) ཁོང་། (10) ཆུང་། (18) གར། (26) གྲིང་། (34) ཕྱིར།

(3) རང་། (11) གཟིམ། (19) ལོང་། (27) སེར། (35) བསམས།

(4) ལམ། (12) དམར། (20) འགྲེམ། (28) དེང་། (36) ལྷོངས།

(5) ཡུམ། (13) སྐོར། (21) ལུང་། (29) སྐྱེར། (37) ཚོམས།

(6) མཉམ། (14) རིང་། (22) འདིར། (30) སེམས། (38) འཐུངས།

(7) ཨེམ། (15) ནོར། (23) འཇུར། (31) ཟུར། (39) སྐྱངས།

(8) ཟེར། (16) བསམ། (24) དགོངས། (32) གསུམ། (40) སྟོམ།

3.7.5 Tone Discrimination: circle the syllable which has a different tone from others

(1) ཙོམ། ཚན། བར། གནང་། (8) མགྱོགས། རེད། ཤེས། བྱེད།

(2) བསྐོལ། ཆུག། དུས། ལགས། (9) བཆུད། ལམ། འབྲུག། མེད།

(3) ཡོད། ལྷག བྱས། ཙམ། (10) སྐྱོབ། ལྷོགས། གཅིག ཆུག

(4) བཏང་། ཁོང་། ཁམས། འཚར། (11) རིང་། སྐྱངས། བདུན། མིན།

(5) ཡག དྲོད། ཚོད། དགོས། (12) ཞེབས། མཆོད། གཡག འབྲོག

(6) སྐད་། གངས། བན། སྐོམ། (13) སྟོན། དམར། གསོལ། མཆོས།

(7) བསྡད། ཐོད། སྐད། སྟོད། (14) ཏེལ། བྱས། ཁྲིར། ཆེན།

3.7.6 Oral Spelling (I): spell out the syllables

(1) ཕྱག་ལས། (5) བོད་ཞས། (9) སྐལ་བཟང་། (13) གཟའ་མིག་དམར།

(2) བཅོ་བརྒྱད། (6) བརྟན་འཛིན། (10) རྒྱ་སྐད། (14) ཡང་བསྐྱར།

(3) དུས་ཚོད། (7) སྐྱིང་རྗེ་ཡོ། (11) དབྱིན་ཇི། (15) དབང་འདུས།

(4) བར་སྐོར། (8) སྒྲོལ་དཀར། (12) བསྟན་འཛིན།

3.7.7 Oral Spelling (II): Listen to the recording and write down the syllables.

(1) ཐུགས་རྗེ་ཆེ། (5) སློབ་གྲྭ་བ། (9) བོད་སྐད། (13) སྐུ་ཁམས་བཟང་།

(2) སྐུ་གཟུགས། (6) ཡར་ཕེབས། (10) བདེ་པོ་ཡིན། (14) དགོངས་པ་མ་ཚོམ།

(3) སློབ་ཚན། (7) ཞྭ་རང་། (11) ཡག་པོ་འདུག (15) བཀྲ་ཤིས་བདེ་ལེགས།

(4) ཆུན་ལགས། (8) གང་འདྲ་འདུག (12) གཡེར་ཕེབས།

3.7.8 Identify the Root Letter

(1) སྐམ། (4) དབྱར། (7) མཉམ། (10) བསྟགས། (13) རྟད།

(2) བཞག (5) སངས། (8) འགངས། (11) བླངས། (14) བསམས།

(3) ཞབས། (6) བརྒྱབ། (9) བརྡབས། (12) གཡང་། (15) འབྲས།

Lesson 4

Beyond the Syllable

❖ 4.1 Tone Sandhi

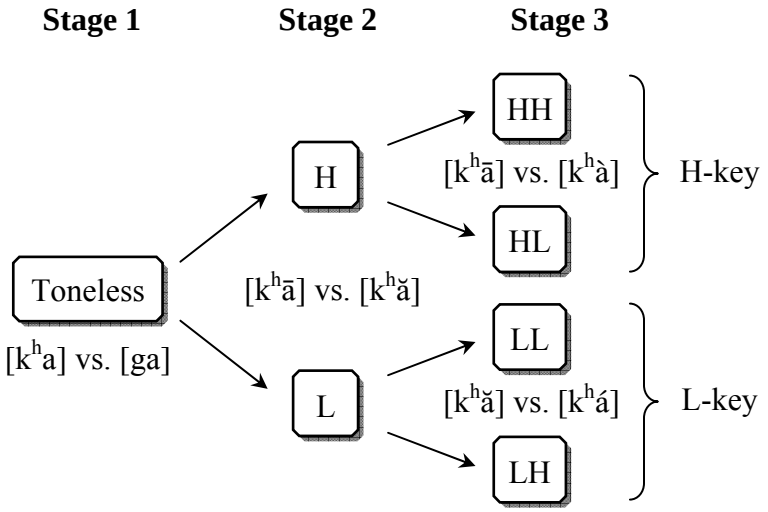
When syllables are put together, the internal working of a language sometimes "fixes" unnatural sequences to become easier to articulate for native tongues or better-sounding to native ears. This is called sandhi. Sandhi rules are typically language specific, with or without phonetic motivation. The changes in the sequences **a egg* to *an egg* in English, **beau ami* to *bel ami* in French, **la agua* to *el agua* in Spanish, etc., are all examples of sandhi rules at work. In Lhasa Tibetan, sandhi rules fix tonal combinations unnatural to native speakers' ears. This section discusses the two tone sandhi rules in Lhasa Tibetan and some peripheral issues around tones.

4.1.1 General Review of Tones

In Lesson 3, we encountered falling risings tone created by the suffix, which completes the four-tone paradigm. It is important to know that Lhasa Tibetan did not emerge with these four tones from scratch (i.e., the toneless Old Tibetan) all at the same time. As we mentioned earlier, at the start there were only high tone and low tone, a new system made necessary by the disappearance of the voiced consonants and their subsequent merging with the voiceless ones. That is, the difference between the voiceless ཁ [k^{h}a] and the voiced ག [ga] in (toneless) Old Tibetan has shifted from a contrast in voicing to a contrast in tone: ཁ [k^{h}ā] and ག [k^{h}ǎ]. Some suffixes did modify the pitch contour, by turning HH(55) to HL(52) with an audible obstruent suffix. Yet, because the suffixes were, although continuously being weakened, still pronounced, the pitch contour served only as a secondary feature. For instance, the contrast between ཐ [t^{h}ā] and ཐག [t^{h}àk] would rely more on the final consonant [k] of the second word rather than the tone difference between [ā] and [à]. Only much later, almost until present day, when the suffixes were weakened to complete (or, for some speakers, almost complete) silence, did the rising and falling pitch contours start to take up the burden and function as full-fledged tones.

Due to this historical development, the four tones in Tibetan do not behave entirely independently from one another. The high tone (HH) and the falling tone (HL), which is derived from the former, constitute a small tonal group, different from the low tone (LL) and the rising tone (LH), which forms the other. For convenience sake, we use the term "key" (instead of the confusing term "register") to classify the two groups. High-keyed tones are the high level and the falling, while the low-keyed tones are the low level and the rising. The concept of H or L key will play a crucial role in understanding the tone

sandhi rule. The following diagram represents very roughly, but sufficiently for our purposes, the development of the tonal system in Tibetan.



The diagram offers a simple and somewhat idealized scenario of the tonal development. It is phonologically true to those who have dropped the final glottal stop [ʔ] and distinguish ཁ [kʰā] from ཁའ [kʰà] solely based on the tonal contrast. For the minority few who still retain the faint [ʔ] and who rely on it to distinguish ཁ [kʰā] from ཁའ [kʰàʔ], stage 3 has not been completed, although the authors believe that it ultimately will. For either group, the level tone vs. contour tone distinction has transcended from a secondary role in stage 2 to a primary (if not exclusive) feature in present day Lhasa Tibetan.

The above description is the more abstract phonological, or mental, representation of the tones. The following chart links it to the actual phonetic properties of the four tones.

phonological representation		phonetic description of tones in a disyllabic word					
		short rhyme			long rhyme		
key	tone	citation or 2nd σ	1st σ	examples	citation or 2nd σ	1st σ	examples
H	HH	54	55	ཁ [kʰā]	55	55	ཁོང [kʰōːng]
	HL	52	55	ཆབ [cʰàp]	(none)	--	--
L	LL	12	11	དཀུ [kǔ]	113	11	མར [mǎː]
	LH	132	11	གངས [kʰáng]	14	(σ_2 only, derived)	ཟླ་ཁང[káːng]

Summary of Tones of Lhasa Tibetan

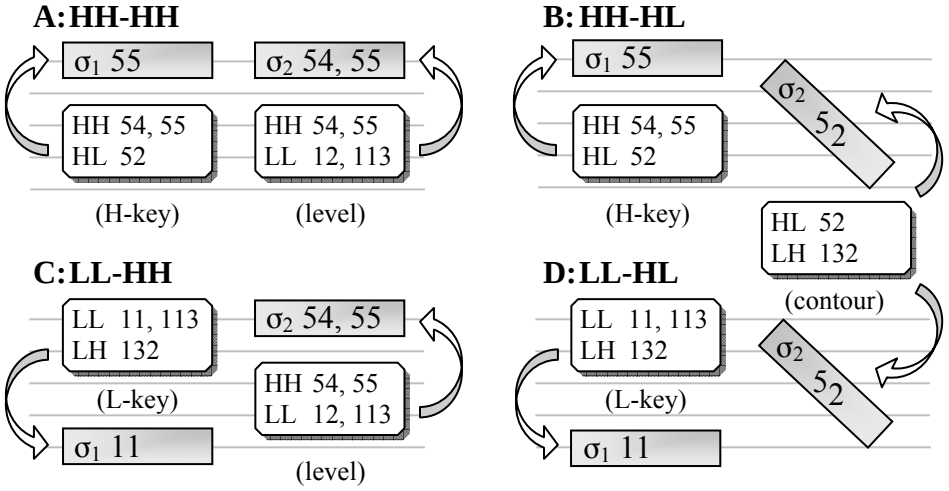
The dotted portion of a tone indicates the "tail" in citation form or in a word final position. Note that the tail, although articulated, is not really in the "mindset" of the speaker (see 1.2.3). There are a few more things to note from the above summary chart of tones. First, while syllables with a long rhyme tend to be equally long in duration, averaging 0.32 seconds, syllables with a short rhyme differ in duration more widely, ranging from the super-short 0.12 seconds of ཁོབ [k^{h}òp], the standard 0.16 seconds of རྟཱ [tā], to the oversized སངས [sàng], which tried to fit in as a short rhyme with a duration of 0.21 seconds (cf. སཱང, [sā:ng] 0.32 seconds without the post-suffix.) The long vs. short division will play a crucial role in the tone sandhi rule called "Long Rhyme Rising" in Lhasa Tibetan. Second, there is no underlying long rhymed falling tone or rising tone in the system, even though the capacity is there to allow their existence. Momentarily, we will introduce this Long Rhyme Rising, which derives a long rhymed rising tone in disyllabic words. Third and lastly, rhyme is a separate notion from tone. Even though there are some predictable correlations between the two, for instance, it is easier to maintain the long rhymed high tone as 55 (without the slackening tail) than the short rhymed 54 (with the tail), the 55 and 54 are best understood as having the same HH tone. Similarly, the short 12 and the long 113 are both LL in nature.

4.1.2 Disyllabic Tone Sandhi

We have come a long way to understand the Tibetan tones and how to read Tibetan orthography with the correct sounds as well as the correct tones. There is one last hurdle in the homestretch before we are truly able to see Tibetan words and know immediately how to pronounce them, most of which are not isolated syllables. Although the smallest meaningful unit, or morpheme, in Tibetan is usually single syllables, the bulk of the lexicon consists of disyllabic words. Thus, learning how to adjust the tone of a single syllable in disyllabic combination is essential.

The discussion in the previous section provides us the necessary background to understand how tone sandhi works in Tibetan disyllabic words. Mathematically, the four lexical tones in Lhasa Tibetan should produce 16 (4x4) possible tonal combinations (some tones have long and short variations) for all disyllabic words. In reality, disyllabic combinations exhibit only <u>five</u> tonal patterns, namely, HH + HH, HH + HL, LL + HH, LL + HL and a fifth LL + LH. In other words, 16 different inputs of combining different tones into disyllabic compounds only yield five outcomes. This fact suggests that there must be tone sandhi rules at work, merging different tones into simpler patterns. This tremendous merging is all the more remarkable if one compares the Tibetan data with the Chinese (Mandarin) tone sandhi. In Mandarin Chinese, which also has the four tones similar to those in Lhasa Tibetan, the 16 possible combinations of a disyllabic word in Mandarin actually yield 15 well-formed outputs. Only one combination, namely LL + LL, needs fixing (to LH + LL). Yet, Tibetan has only 5 outputs out of 16. To say that so many combinations are unnatural and need fixing by sandhi rules is apparently missing something more general. We contend that the tone sandhi rule for disyllabic words

applied much earlier (at stage 2, as indicated in the diagram above) while the system had only two tones (H and L) rather than the current stage with four tones. Let's examine the data first. Leaving the fifth pattern LL + LH as the result of an additional rule, the other four possible combinations can be represented by the following diagram, the various tones in a box indicate the possible inputs of each specific pattern.



In Pattern A, for example, the first syllable (σ_1) comes from three possible sources, all H-key, namely a HH short rhyme (54), HH long rhyme (55), or HL (52). No matter what the input tone is, it is pronounced as a sustained 55 (for both short and long rhyme). The second syllable (σ_2) has four possible sources, all level tones, namely, HH short rhyme (54), HH long rhyme (55), LL short rhyme (12), or LL long rhyme (113). Unlike σ_1, the tone of σ_2, also HH, allows the two variations 54 (short rhyme with tail) and 55 (long rhyme). All four Patterns A, B, C, and D reviewed, there seems to exist a predetermined tonal pattern for disyllabic words: σ_1 must be level and σ_2 must be H-key, i.e., high level or falling.

The above observation supports our claim that the tone sandhi rule must have been operated on a simpler tonal system (i.e., stage 2), where "key" is the key factor. Given the data, it is adequate to assume that, in a two tone system, H + H and L + H combinations are OK and H + L and L + L must undergo sandhi and change the second syllable from L to H. The rule is amazingly simple:

(1) Sandhi Rule in Stage 2: If σ_2 is L, change it to H.

This is why the first syllable is fixed as a level tone: it reflects and preserves the pronunciation of Lhasa Tibetan in Stage 2. The second syllable is word-final and has the room to develop the tonal contours, thus the predetermined H-key and the variations in level (HH) and contour (HL) tones.

Putting the above diachronic analysis aside, from a contemporary perspective, it is sufficient to describe the tone sandhi rule as follows:

(2) Dissyllabic Key-Contour Rule

> In a disyllabic word $\sigma_1\sigma_2$, σ_1 must be level, whether it is HH or LL depends on the Key of σ_1; σ_2 must be H-key, whether it is HH or HL depends on the shape (level or contour) of σ_2.

The rule says, in a disyllabic word $\sigma_1\sigma_2$, the tone of σ_1 is decided by its key; and the tone of σ_2, already set at H-key, is decided by its shape (level or contour). In pattern B, for example, the input sources are H-keyed HH (54, 55) or HL (52), therefore, σ_1 is HH; whereas, in pattern C, since the inputs for σ_1 are all L-keyed, σ_1 is realized as LL. Note that, whether short or long, σ_1 is always a clean-cut, tail-less 55 or 11. In patterns B and D, the possible inputs for σ_2 are contour tones, therefore, it is realized as a falling tone (since the key is predetermined at H). The following summarizes the four tonal patterns in terms of the deciding factors for each syllable (key for σ_1 and shape for σ_2).

(3) Disyllabic Key-Contour Rule and the Resulting Four Tonal Patterns
A: H-keyed tone + level tone → HH + HH
B: H-keyed tone + contour tone → HH + HL
C: L-keyed tone + level tone → LL + HH
D: L-keyed tone + contour tone → LL + HL

The Tibetan orthography becomes very handy in deciphering the tonal pattern. Since the tonal key of a syllable is decided by the onset and the shape (level or contour) by the coda, one only needs to glance at the onset of σ_1 and the coda of σ_2 to be able to tell the output combination. (Recall that the level shape of σ_1 and H-key of σ_2 is predetermined.) Below is an exhaustive list of examples grouped in tonal patterns:

Pattern A: HH-HH

(1) ལྷ་ས [l^{h}ā] + [sā] → [l^{h}āsā] ‘Lhasa’ (HH^{54} + HH^{54}→ 55 + 54)

(2) ཁ་བར [k^{h}ā] + [pāː] → [k^{h}āpāː] ‘telephone’ (HH^{54} + HH^{55} → 55 + 55)

(3) ཕ་མ [p^{h}ā] + [mă] → [p^{h}āmā] ‘father and mother’ (HH^{54} + LL^{12} → 55 + 54)

(4) ཧ་ལམ [p^{h}ā] + [mă] → [hālāːm] ‘almost’ (HH^{54} + LL^{113} → 55 + 55)

(5) རྩམ་པ [tsāːm] + [pā] → [tsāːmpā] ‘*tsampa*’ (HH^{55} + HH^{54} → 55 + 54)

(6) གཅེན་གཉིས [cēːn] + [cōːng] → [cēːncōːng] ‘siblings’ (HH^{55} + HH^{55} → 55 + 55)

(7) སྐར་མ [kār] + [mă] → [kārmā] ‘star’ (HH^{55} + LL^{12} → 55 + 54)

(8) སང་ཉིན [sāːng] + [nĭːn] → [sāːngnīːn] ‘tomorrow’ (HH^{55} + LL^{113} → 55 + 55)

(9) ཚག་ཤ [ts^{h}à] + [shā] → [ts^{h}āshā] ‘yak meat’ (HL^{52} + HH^{54} → 55 + 54)

(10) མཆོད་ཆང [c^{h}ǒ] + [c^{h}āːng] → [c^{h}ǒc^{h}āːng] ‘*chang*’ (HL^{52} + HH^{55} → 55 + 55)

(11) སློབ་གྲྭ [lòp] + [tr^{h}ă] → [lōptrā] ‘school’ (HL^{52} + LL^{12} → 55 + 54)

(12) ཁྱེད་རང [k^{h}yè] + [ră:ng] → [k^{h}yērā:ng] ‘you’ (HL^{52} + LL^{113} → 55 + 55)

Pattern B: HH-HL

(13) བཀྲ་ཤིས [trā] + [shì] → [trāshì] ‘personal name’ (HH^{54} + HL^{52}→ 55 + 52)

(14) བཅུ་དྲུག [cū] + [tr^{h}ú] → [cūtrù] ‘sixteen’ (HH^{54} + LH^{132} → 55 + 52)

(15) ཤིང་ཏོག [shīng] + [tò] → [shīngtò] ‘fruit’ (HH^{55} + HL^{52} → 55 + 52)

(16) ལྷན་ཀྱེས [l^{h}ɛ:n] + [kyè] → [l^{h}ɛ:nkyè] ‘together’ (HH^{55} + LH^{132} → 55 + 52)

(17) ཏཱ་ཏ [tà] + [tà] → [tātà] ‘exactly’ (HL^{52} + HL^{52} → 55 + 52)

(18) སློབ་ཕྲོ [lòp] + [tr^{h}ó] → [lōptrò] ‘classmate’ (HL^{52} + LH^{132} → 55 + 52)

Pattern C: LL-HH

(19) ན་ཚ [nă] + [ts^{h}ā] → [nătsā] ‘illness’ (LL^{12} + HH^{54}→ 11 + 54)

(20) རི་མོ [rǐ] + [mǒ] → [rǐmō] ‘painting’ (LL^{12} + LL^{12} → 11 + 54)

(21) དགོན་པ [kǒ:n] + [pā] → [kǒ:npā] ‘monastery’ (LL^{113} + HH^{54} → 11 + 54)

(22) གྲང་མོ [tr^{h}ăng] + [mǒ] → [tr^{h}ăngmō] ‘cold’ (LL ^{113} + LL^{12} → 11 + 54)

(23) ཞོག་པ [shó] + [pā] → [shŏpā] ‘morning’ (LH^{132} + HH^{54} → 11 + 54)

(24) ཞབས་ཤུ [shăp] + [shŭ] → [shăpshū] ‘to serve’ (LH^{132} + LL^{12} → 11 + 54)

*(25) ལོ་གསར [lŏ] + [sār] → [lŏsār] ‘new year’ (LL^{12} + HH^{55} → 11 + 55)

*(26) དགེ་རྒན [kĕ] + [kĕ:n] → [kĕkē:n] ‘teacher’ (LL^{12} + LL^{113} → 11 + 55)

*(27) མཐོན་ཁང [trŏ:n] + [k^{h}āng] → [trŏ:nkāng] ‘hotel’ (LL^{113} + HH^{55} → 11 + 55)

*(28) ནམ་རྒྱུན [năm] + [kyŭ:n] → [năm kyū:n] ‘usual’ (LL^{113} + LL^{113} → 11 + 55)

*(29) མི་ཁ་དམར [mí] + [mār] → [mĭngmār] ‘school’ (LH^{132} + HH^{55} → 11 + 55)

*(30) བོད་འབར [p^{h}ǿ] + [păr] → [p^{h}ŏpār] ‘Tibet-Burma’ (LH^{132} + LL^{113} → 11 + 55)

Note that in Pattern C, when the second syllable is long, such as the asterisked examples from (25) to (30), the pattern undergoes an additional rule in colloquial Lhasa speech that further changes the 11 + 55 pattern to 11 + 14. See 4.1.3 for more detail.

Pattern D: LL-HL

(31) ལ་ཐུག [lă] + [p^{h}ù] → [lăpù] ‘radish’ (LL^{12} + HL^{52}→ 11 + 52)

(32) ར་ལུག [ră] + [lú] → [rălù] ‘goats and sheep’ (LL^{12} + LH^{132} → 11 + 52)

(33) ཁྲོང་གསེབ [tr^{h}ŏng] + [sè] → [tr^{h}ŏngsè] ‘countryside’(LL^{113} + HL^{52} → 11 + 52)

(34) ཉིན་དེབ [nyĭ:n] + [t^{h}ép] → [nyĭ:ntèp] ‘diary’ (LL^{113} + LH^{132} → 11 + 52)

(35) རིག་གནས [rí] + [nè] → [rĭnè] ‘culture’ (LH^{132} + HL^{52} → 11 + 52)

(36) ཕོད་ཟས [p^{h}ǿ] + [sé] → [p^{h}ǿsè] ‘school’ (LH^{132} + LH^{132} → 11 + 52)

4.1.3 Long Rhyme Rising

The disyllabic tone sandhi rule is a simple yet powerful one that predicts all the possible combinations. In some U-Tsang dialects, this seems to be the only operating sandhi rule, e.g. *Dartze* county to the east of Lhasa. However, a subgroup of Pattern C (LL-HH), namely the asterisked examples from (25) to (30), is pronounced in Lhasa Tibetan with a twist. That is, the pronunciation of ཉལ་ཁང [nyĕ:] + [k^{h}ā:ng] ‘bedroom’ is not the predicted [nyĕ:kā:ng] (LL-HH), but instead [nyĕ:ká:ng] (LL-LH). This is the result of an additional rule to the more general disyllabic sandhi we discussed in the previous section. In Lhasa Tibetan, when the first syllable is low (from all L-key sources, short or long), the second syllable, if and only if long, becomes rising (LH). In other words, this additional rule changes all the (LL^{11}-HH^{55}) combinations to (LL^{11}-LH^{14}). We call this rule Long Rhyme Rising:

(1) Long Rhyme Rising: LL-HH(long) → LL-LH

This is worth noting because all contour tones are short in duration, this rising long rhyme only exists in this derived context. However, it is not to be taken as a new tone; it is simply combining the LH tonal contour to a long rhyme, something allowed in the capacity of the system. Lhasa speakers simply take advantage of this capacity and fill in a gap. More examples:

(2) ཇ་ཁང: [c^{h}ă] + [k^{h}ā:ng] → [c^{h}ăká:ng] ‘teahouse’ (LL^{11} + LH^{14})

(3) ཇ་མདོང: [c^{h}ă] + [tŏ:ng] → [c^{h}ătó:ng] ‘tea churn’(LL^{11} + LH^{14})

(4) ཇ་མར: [c^{h}ă] + [mă:] → [c^{h}ămá:] ‘tea and butter’

(5) མདུན་ལམ: [tŭ:n] + [lă:m] → [tŭ:nlá:m] ‘future’

(6) རི་མཐུལ: [rĭ] + [kŭ:] → [rĭngkú:] ‘area near mountain top’

(7) བྱང་ཤར: [c^{h}ă:ng] + [shā:] → [c^{h}ă:ngshá:] ‘northeast’

Note that this rule does not apply to the LL-HH combination when the second syllable is short, cf. examples from (19) to (24) in the previous section.

4.1.4 Neutral Tone

Tibetan syllables, judged from the orthography, all have a tone. However, in a string of words, some syllables become toneless. Most of these syllables are functional categories such as case markers, structural particles, and sentential particles, which do not have a semantic content per se. There are interesting interactions between the toneless syllable and the syllable it is attached to.

The negator མ [ma] 'not', for example, is a toneless functional category. It is phonologically attached to the verb that follows it and form a "tonal foot" (a prosodic unit where tone sandhi rules apply) with the verb. Being in the tonal foot, མ needs a tone. Since it does not have a tone of its own, it is specified by the (tonal) key of the hosting verb. Consider the following examples from Hu (1979):

(1) མ་བལྟས [ma] + [tè] → [mātè] 'did not look'

(2) མ་བསྡད [ma] + [té] → [mătè] 'did not sit'

(3) མ་བསད [ma] + [sè] → [māsè] 'did not kill'

(4) མ་བཟས [ma] + [sé] → [măsè] 'did not kill'

We can see that the same negator མ can be pronounced either as [mā]-HH or [mă]-LL, depending on the phonological context it appears in, i.e. the key of the verb which follows མ. What is worth noting here is that, after the tone of མ is decided, the new tonal foot (མ + verb) becomes subject to the disyllabic tone sandhi rule discussed earlier in 4.1.2. The contrast between the falling tone བལྟས [tè] and the rising tone བསྡད [té] disappears (both become [tè], as a result of the tone sandhi), but their respective original tone is reflected by the negator མ.

Proclitic toneless syllables such as མ which precede their phonological host and participate in tone sandhi are in the minority. Most toneless syllables are enclitics, attaching themselves to the end of a preceding syllable. Toneless syllables of this sort typically do not participate in the disyllabic tone sandhi rule, which means they do not cause tone change on the preceding syllable. Examples:

(1) ཕེབས་འ [pè] + [a] → [pèa] 'Go.'

(2) འགྲོ་དོ [trŏ] + [tu] → [trŏtu] 'Let's go.'

It should be noted that, although the above examples are transcribed as a disyllabic unit (as they are indeed), the first syllable retains its original tone, be it level or contour. This would not be possible if the second syllable had a tone, which would have triggered the disyllabic tone sandhi and changed the first syllable to a level tone.

In the situation where the toneless syllable is attached to a disyllabic word, the attachment does not affect the tonal pattern of the host. Examples:

(5) བཀྲ་ཤིས་ལ [trāshì] + [la] → [trāshìla] 'to Trashi'

(6) མགྲོན་ཁང་ལ [trŏ:nkáng] + [la] → [trŏ:ká:ngla] 'in a hotel'

❖ 4.2 Contraction of Syllables

Tibetan orthography is supposed to allow one vowel diacritic per syllable (or none if the vowel is [a]). Yet, it is not rare to see syllables marked with more than one vowel diacritics. This is mainly due to the contraction of syllables, a writing convention mainly

designed to reflect the pronunciation more faithfully. This section discusses the most common cases.

4.2.1 Morphological suffixes and grammatical particles

We will learn during the course of this textbook all the major morphological suffixes and grammatical particles. Morphological suffixes seldom take different written forms even though they may have different pronunciations. Grammatical particles, on the other hand, usually have different written forms to reflect the difference in pronunciation. གི (Genitive case), གིས (Ergative case), ལ (Oblique case), etc. all have a variant form when attached to an open syllable. They are, respectively, -འི (Genitive), -ས (Ergative), -ར (Oblique). The last two morphemes, -ས and -ར, are written as the suffix of the previous syllable and present no particular difficulty. The pronunciation of the original word is modified in the same manner as by the orthographic suffix -ས or -ར.

(1) ངས [ngɛ́] (from ང 'I' + གིས ergative case marker) 'I'

(2) ལྷ་སར [l^{h}ɛ̄ːsāː] (from ལྷ་ས 'Lhasa' + ལ oblique case marker) 'in Lhasa, to Lhasa'

Note that the Oblique suffix -ར only lengthens the vowel and does not have the option of being pronounced as a [r]. This is different from the true, or orthographic, suffix ར.

The Genitive case marker -འི often creates a syllable with two diacritics, such as the following examples: ངའི [ngɛ̆ː] 'my', མིའི [mĭː] 'of people', སུའི [sū̆ː] 'whose', མེའི [mĕː] 'of fire', ཁོའི [k^{h}ø̄ː] 'his', etc. Note that these examples are cases of syllable contractions. The -འི is not to be taken as the dummy suffix འ. As indicated by the phonetic transcription, the pronunciation of this genitive -འི is identical to the suffix ལ, i.e., it triggers umlauting on [a, o, u] and lengthens all vowels.

A common diminutive nominal suffix -འུ is written together with the preceding open syllable, e.g., རྟེའུ [dēū] or [diū] 'colt, foal' (from རྟ [tā] 'horse') and རྡེའུ [dĕū] or [diŭ] 'pebble, small stone'. The -འུ can be read as a separate syllable, in which case the tonal pattern follows the disyllabic tone sandhi rule. Or, in casual speech, [u] combines with the preceding vowel and form a diphthong.

4.2.2 Alternations of the letter ཕ: [p^{h}a], [wa], and glottal stop

We have seen that the bilabial stop ཕ [p^{h}]-LL creates a group of remarkable exceptions in pronunciation when subjoined, superjoined, or prefixed. It does not hurt to repeat them

here: དྭ [w]-HH, ཇ [c^h]-LL, དྱ [y]-HH, ལྕ [c]-LL, ཟ [tr^h]-LL, and དྲ [r]-HH. This very naughty བ itself has in fact other exceptional pronunciations. When བ takes the default vowel [a] or the mid back [o] (ོ), in a second syllable, it is pronounced [w]-LL, instead of [p^h]-LL. For instance, རེ་བ [rĕwā] 'hope' and རི་བོ [rĭwū] 'mountain'. Note that in the case of རི་བོ, vowel harmony also takes place ([rĭwō] → [rĭwū]). See 4.3.3.

In the colloquial pronunciation, the second syllable onset བ [w] deletes itself so that the vowel of the second syllable joins the vowel of the first syllable to form a long vowel (with [a, o, e]) or a diphthong (with [i, u]). Examples:

(1) ཀཱ་བ [kāwā] → [kāː] 'pillar'

(2) ཏྲ་བ [tr^{h}ăwā] → [tr^{h}ăː] 'net'

(3) ཀོ་བ [kōwā] → [kōː] 'leather'

(4) མཆེ་བ [c^{h}ēwā] → [c^{h}ēː] 'canine (tooth)'

(5) དུ་བ [t^{h}ŭwə] → [t^{h}wŏ] 'smoke'

If unsure about the pronunciation, the learner can always resort to the formal reading of བ in the above examples as [w].

In casual speech, the morpheme པ 'person', when attached to a disyllabic host, is toneless and can be treated as a simple suffix -པ. For example:

(6) ལྷ་ས་པ [l^{h}ɛ̄ːsà] (from ལྷ་ས་བ [l^{h}ɛ̄ːsāwa]) 'a person from Lhasa'

(7) ཡོ་མ་པ [tr^{h}ŏmò] (from ཡོ་མ་བ [tr^{h}ŏmōwa]) 'a person from Yadong'

Note that the original trisyllabic word is reduced to disyllabic, with the tone change on σ_2 from high to falling because of the "suffix" པ.

4.2.3 Diphthongs of other sources

Diphthongs are unusual in the Tibetan phonological system. Native words tend to have single vowel nuclei. Diphthongs created by the diminutive -ཀྱ, mentioned earlier are relatively rare. However, language contacts with other languages, Chinese in particular, have made it necessary to develop some writing conventions to accommodate loan words that contain diphthongs in the original source. The following chart is a summary of the common long vowels and diphthongs used to spell foreign loan words.

sound	a:	i:	u:	e:	o:	ai	ao	iu	uo	eo	ou
loan word	ཨཱ	ཨཱིའི	ཨཱུཡུ	ཨེའེ	ཨོའོ	ཨའེ	ཨའོ	ཨིའུ	ཨུའོ	ཨེའོ	ཨོའུ

Since Tibetan already has the long vowels [a:, i:, u:, e:, o:] (ཨཱ་ཨཱི་ཨཱུ་ཨེ་ཨོ་), the inclusion of the long vowels in the chart above needs some explanation. Recall that all the long vowels are derived from a single short vowel with sonorant suffix. Foreign long vowels do not have these underlying sonorant in the coda position, so it makes sense to distinguish them as "bare" long vowels with a different spelling. For example, The Chinese province of Gansu is written in Tibetan as ཀན་སུའུ, [kɛ̄ːnsūː]. Chinese political terms such as *zhǔxí* 'chairman' is borrowed into Tibetan as ཀྲུ་ཞི, with a long [u]. These "irregular" writings should not concern our reader too much, as these words tend to appear only in political and economic contexts, which is hardly the theme or level of this textbook.

4.2.4 Special writing rules

Traveling in Lhasa, one is bound to see such mysterious signs as ཟོ outside many restrooms or outhouses. How does one pronounce a syllable with two vowel diacritics on a single root letter? This particular word is actually a shorthand for བུ་མོ 'girl', an instance of the many special writing conventions accumulated over time in Tibetans' daily use of the writing system. Another often seen example is the contraction of the word བཀྲ་ཤིས 'auspicious' into བཀྲིས, still read as [trəshì] as the original disyllabic word.

❖ 4.3 Phonological Interactions Between Syllables

Did we say that pre-onset elements (prefix and superfix) are silent? If we did, we meant that "they are silent when the syllable is pronounced in isolation." In a disyllabic word, the consonant(s) between the vowel of each syllable can undergo phonological changes. The otherwise silent pre-onset element in the second syllable may also interact with the first syllable as well. In this section, we will discuss some common phonological rules in Lhasa Tibetan. Some of these rules are subconscious to native speakers, but foreign learners tend to notice these sound changes in spoken Lhasa Tibetan because some changes are quite obvious. We consider it helpful to discuss these rules here.

4.3.1 Disyllabic Deaspiration

Earlier we learned that pre-onset elements make a third column obstruent (ག, ད, ན, བ, མ and the derived ཀྱ, གྱ, ཉ, ཧྱ, and ཧྲ) lose its aspiration. This is a rule conscious to native speakers, the result of its application filling in five gaps in the sound inventory, namely [k]-LL, [c]-LL, [t]-LL, [p^h]-LL, and [ts]-LL. The sound change is reflected in the orthography by a superfix or a prefix and native speakers are very much aware of the change. We may call this rule Pre-onset Deaspiration.

There is in fact another deaspiration rule that applies to all aspirated consonants, including the high tone ཁ, ཆ, ཐ, ཕ, ཚ and the derived ཁྱ, ཁྲ, ཐྲ, ཕྱ, ཕྲ, ཁྱ, ཁྲ, ཉ, ཧྱ, and ཧྲ. This rule applies when the second syllable in a disyllabic word has an aspirated onset (H

or L). This phenomenon was noted earlier in Pronunciation Drill 1.5.4, when we practiced reading disyllabic words. Some of the previous examples in this section also exhibit the application of this rule. We may call it Disyllabic Deaspiration. Examples:

(1) ཁ [k^{h}ā] + ཅུ [c^{h}ū] → ཁ་ཅུ [k^{h}ācū] 'saliva' (not *[k^{h}āc^{h}ū])

(2) ཅུ [c^{h}ū] + ཁ [k^{h}ā] → ཅུ་ཁ [c^{h}ūkā] 'by the water' (not *[c^{h}ūk^{h}ā])

(3) འོ [ǒ] + ཇ [c^{h}ă] → འོ་ཇ [ǒcā] 'milk tea' (not *[ǒc^{h}ā])

(4) དབང [wā:ng] + ཆ [c^{h}ā] → དབང་ཆ [wā:ngcā] 'power, rights' (not *[wā:ngc^{h}ā])

(5) དབྱར[yā:] + ཁ [k^{h}ā] → དབྱར་ཁ [yā:kā] 'summer' (not *[yā:k^{h}ā])

The first two examples are particularly telling: Both syllables have an aspirated onset [c^{h}] or [k^{h}] but it is always the onset in the second syllable that loses the aspiration.

As a side note, the two deaspiration rules have very different linguistic natures. The Pre-onset deaspiration rule is obligatory, expressed in the orthography, and the speakers are conscious about it. Failing to apply the Pre-onset Deaspiration rule to a prefixed/superfixed third columner is like pronouncing *cheap* as *sheep*. It's simply wrong. The Disyllabic Deaspiration rule, although important to know, is not as obligatory. Pronouncing དབྱར་ཁ [yā:kā] 'summer' as [yā:k^{h}ā] sounds unnatural and unauthentic to native ears, but it would not be considered entirely wrong. This is similar to the variations of [t] in American English. The Pre-onset Deaspiration rule, which applies to prefixed or superjoined third columners, may be compared to the English rule alternating the [t] sound in words such as *na<u>t</u>ion* [sh] and *na<u>t</u>ive* [t]. The Disyllabic Deaspiration rule compares more closely to the flapping of [t] in *bu<u>tt</u>er*. Failure to flap the [t] in *butter* in casual talk may only reveal one's status as a non-native speaker of American English, whereas pronouncing *native* as *nashive* is simply unacceptable. Even though the distinction between the two deaspiration rules is clear, since the Disyllabic Deaspiration rule is extremely common, one should internalize it and apply it whenever appropriate.

4.3.3 Leftward Liaison

Tibetan pre-onset elements may be pronounced in certain sound environments. For example, the words *four* བཞི [shǐ] and *ten* བཅུ [cū] both have the prefix བ, which is silent in both words in their citation form. However, the word *forty* བཞི་བཅུ (literally, four-ten) is [shǐ**p**cū] with the prefix བ of the second syllable བཅུ overtly pronounced as [p]. This phenomenon is identical to a well known phonological rule in French called <u>liaison</u>, where a word-final silent, or more accurately, <u>latent</u>, consonant becomes overtly pronounced in specific sound environment. For instance, the final t in *petit* [pti] 'small' and the s in *les* [lɛ] 'the' are both silent in isolation but become pronounced when preceding a vowel-initial word which is syntactically close enough, e.g., *petit ami* [pti**t**ami] 'boyfriend' and *les enfants* [lɛ**z**ãfã] 'the children'. The only difference between Tibetan and French in this regard is the direction of liaison: French liaison links the right margin (i.e. the word-final position) latent consonant to the following vowel as its onset, Tibetan liaison links the left

margin (i.e. pre-onset element) leftward to the preceding vowel as its coda. We may call the Tibetan case Leftward Liaison.

There exist numerous examples of the Leftward Liaison in Tibetan disyllabic words, for the two syllables (usually also two morphemes) are always morphologically close.

(1) བཅུ [cū] + བཞི [shǐ] → བཅུ་བཞི [cū**p**shī] 'fourteen' (བ liaisoned)

(2) ལ [lă] + མཁོ [kǒ] → ལ་མཁོ [lă**:ng**kō] 'superfix la' (མ liaisoned)

(3) རྟ [tā] + མགོ [kǒ] → རྟ་མགོ [tā**:ng**kō] 'horse head' (མ liaisoned)

Leftward Liaison applies not only within words, it can also take place across word boundaries, when the two words are syntactically close enough and form one prosodic unit. Examples:

(4) མི [mǐ] + འདུག [tú] → མི་འདུག [mǐntù] 'not have' (nasal འ liaisoned)

Leftward liaison can be understood as the leftmost latent consonant of a syllable surfacing as the coda of the preceding syllable, which has to be open (coda-less) prior to the liaison. However, there are cases when the preceding syllable does contain a suffix in writing but since it is entirely silent, the liaison rule still applies.

(5) བོད [p^{h}ǿ] + སྐད [cóng] → བོད་སྐད [p^{h}ǿ**:n**còng] 'Tibet' (nasal ལ liaisoned)

Note that the latent nasal sound of the superfix ལ is pronounced despite the coda ད in the previous syllable.

Recall from Lesson 3 that the alveolar nasal suffix ན triggers umlauting on the back vowels [a. o, u] to [ɛ,ø,ü], creating long rhymes [ɛ:n, ø:n, ü:n]. It is important to note that the liaisoned nasal sound, coming from three different pre-onset sources (མ, འ, and ལ), do not trigger any change, no umlauting nor lengthening, on the vowel. In other words, Tibetan makes a distinction between a true coda [Vn] and a liaisoned coda [Vn] such that only the true coda causes umlauting and lengthening in the vowel. Examples:

(6) མ [mă] + འགྲོ [trǒ] → མ་འགྲོ [măntrō] 'not go' (འ liaisoned)

As expected, the liaisoned coda [n] does not trigger umlauting, thus མ་འགྲོ [măntrō] and not *[mɛ̆:ntrō]. Exceptions exist, however. Some disyllabic words are such core vocabulary in the daily use of the language that, during the evolution, the liaisoned coda is somehow taken as the true coda. The numeral བཅོ་ལྔ [cōngā] 'fifteen' (from བཅུ [cū] 'ten' + ལྔ [ngā] 'five') offers an excellent example. First, the vowel [u] lowers to [o] due to the low vowel [a] in the following syllable to [cō.nga] (see vowel harmony, next section); then the superfix ལ becomes liaisoned as a nasal coda and triggers umlaut to form [cɔ̄ngā]. Readers should not feel concerned about these less predictable pronunciations, as they will all be phonetically transcribed in the vocabulary.

4.3.4 Vowel Harmony

Vowel harmony refers to a fairly common phonological phenomenon of adjacent vowels (allowing intervening consonants) affecting one another, or a chief one affecting others, in such a way that they become more similar. In Lhasa Tibetan, vowel harmony is manifested in the power of the high vowels [i, u, ü] to raise non-high vowels (e.g. [a, e, o]) in their vicinity to a higher position (i.e., more similar in height), with the low vowel [a] raising to [ə], and [e, o] sounding closer to their higher counterparts [i, u]. This is an allophonic variation subconscious to native speakers but learners may be able to hear this vowel raising effect clearly. Examples:

(1) ཁ [kʰā] + ཆུ [cʰū] → ཁ་ཆུ [kʰəcū] 'saliva'

(2) ཆུ [cʰū] + ཁ [kʰā] → ཆུ་ཁ [cʰūkə] 'by the water'

(3) མ [mă] + བུ [pʰŭ] → མ་བུ [məpŭ] 'mother and son'

(3) མ [mă] + བུ [pʰŭ] → མ་བུ [məpŭ] 'mother and son'

(4) བུ [pʰŭ] + མོ [mŏ] → བུ་མོ [pʰŭmū] 'girl'

(5) སྐྱུར [kyūr] + མོ [mŏ] → སྐྱུར་མོ། [kyūrmū] 'sour'

Earlier in 4.1.2, we encountered two words ལ་ཕུག [lăpù] 'radish' and ར་ལུག [rălù] 'goats and sheep'. Due to vowel harmony, the actual pronunciation should be [ləpù] and [rəlù], respectively.

In some cases, vowel harmony is shown in a different way by lowering the high vowels [i, u] to the level of the non-high [e, o]. For example, the same word བུ་མོ can alternatively be pronounced [pʰŏmō]. This lowering type of vowel harmony goes a long way back in the history of the language, sometimes even reflected in the orthography. In the previous section we saw that the vowel [u] in the morpheme བཅུ 'ten' lowers to [o] in བཅོ་ལྔ 'fifteen'. The word བཅོ་བརྒྱད 'eighteen' is another example of this type of vowel harmony. Note that, whether it is [pʰŭmū] or [pʰŏmō], the effect of vowel harmony involves a high vowel. Mid vowels [e, o] typically do not have the force to trigger vowel harmony. For instance:

(5) ཐ [tʰă] + ལོ [lŏ] → ཐ་ལོ [tʰălō] 'this year' (not *[tʰəlō])

(6) འོ [ŏ] + ཇ [cʰă] → འོ་ཇ [ŏcā] 'milk tea' (not *[ŏcə])

Note that, since vowel harmony is an allophonic rule (like the flapping of [t]), orthography does not always reflect it.

❖ 4.4 Punctuation

Tibetan has its own set of punctuation marks. There is no between-word spacing of the western style in Tibetan writing (i.e., no marking of word boundaries.) The smallest unit for punctuation is the syllable. To separate syllables (usually one syllable

corresponds to one morpheme, the smallest meaningful unit in the language), a dot (ཚེག) is marked by the right shoulder of the last letter of the syllable.

There is no strict definition of a sentence in the English sense. Clausal units that resemble a complete sentence or a subordinate clause can be marked by a single vertical line called ཤད་ཀད. There is no distinction among declarative, interrogative, or exclamatory sentences. For all three types, for which English would employ a period, a question mark, and an interjection mark, respectively. Tibetan uses a uniformed ཤད་ཀད. Examples:

(1) ཁྱེད་རང་སློབ་གྲྭ་ཡིན་པས། *Are you a student?*

(2) ངའི་མིང་ལ་མའེ་ཁི་ཟེ་གི་ཡོད། *My name is Mike.*

(3) ཨ་ཅོ། *Oh!*

When one uses ཤད་ཀད at the end of a clause, one normally does not need to use the ཚེག to finish marking the last syllable. There are two exceptions. First, when the last letter of the last syllable is ང, one has to dot the ང before one writes the vertical ཤད་ཀད. This is to prevent ང from sitting too close to the vertical line and being misread as བ. Second, when the last letter of the sentence is ག་གི or ཀ, the long vertical stroke of the letter itself is considered to represent the ཤད་ཀད. There is no need for an additional vertical line ཤད་ཀད.

(4) སྐུ་ཁམས་བཟང་། *Good day. How are you?* (dot and the vertical mark before ང)

(5) དེ་རིང་འདིའི་སློབ་གྲྭས་དགུ་ལས་མིན་འདུག *There are only nine students here today.*
(no vertical mark ཤད་ཀད)

To end a paragraph, two vertical lines ‖ (ཉེས་ཀད) can be used instead of ཤད་ཀད. At the end of a larger section of an essay, one may double up the ཉེས་ཀད and use four vertical lines ‖‖‖‖ (བཞི་ཀད།) to end the entire section of the text. The beginning of a text is marked with ༄༅ (དབུ་ཐུང་།); ། (སྒྲལ་ཀད།) starts chapters or sections; and ཿ (རིན་ཆེན་སྤུངས་ཀད།) starts a new line that contains only one syllable so that it does not look

dangling.

Although there are quite a few calligraphic styles in Tibetan writing, there is no equivalent to the capital and lower cases of the alphabet in the western sense. As a result, there is no way to distinguish common nouns from proper names. To make reading Tibetan text even more difficult for foreign learners, as we mentioned earlier, since the punctuation mark ཚེག is only used to separate syllables, there is no indication of word boundaries to help the reader decide where a word begins and where it ends. Diligence seems to be the only solution to this problem.

❖ 4.5 Exercises

4.5.1 Pronunciation Drill (I): words with HH-HH surface tonal pattern

(1) ཞྭེད་རང་། (17) གཉེས་པ། (33) མཚོད་ཚང་། (49) གཅེན་པོ། (65) བསྟན་འཛིན།

(2) ཀ་ཅང་། (18) ཁ་མ། (34) ཞྭེམ་ཚང་། (50) གཅེན་མོ། (66) གཅེན་གཟུང་།

(3) སྤོ་བ་ཚན། (19) སྤོ་བ་གྲྭ། (35) སུ་སུ། (51) ཁོང་ཚོ། (67) སྐལ་བཟང་།

(4) ཚང་མ། (20) གསུམ་པ། (36) གཟུང་མོ། (52) སྐར་མ། (68) ཁ་སྣ།

(5) བློ་མ། (21) གསོལ་ཇ། (37) ཚང་སྣ། (53) ཁ་གི། (69) སངས་ཉིན།

(6) ཞྭོ་གཡ། (22) ལུ་ལུ། (38) ཁང་པ། (54) ཡུ་པ། (70) སྐྱེས་སྐར།

(7) གསར་པ། (23) གསོལ་གྱུམ། (39) ཆེན་པོ། (55) ཞ་རི། (71) ཁལ་ཆེར།

(8) པ་ཅིན། (24) སྲིད་གཞུང་། (40) སྐྱིད་པོ། (56) ཁྱར་བུ། (72) ཁ་པར།

(9) རྩམ་པ། (25) བློངས་འཚོར། (41) ཐང་ཆེན། (57) བཟུ་པ། (73) སྟོང་པ།

(10) ཁེ་པོ། (26) སིར་པན། (42) ཁག་ཤ། (58) ཐོག་ཁ། (74) མཚན་མོ།

(11) ཁྱུར་བ། (27) རྣམ་འགྱུར། (43) ཚ་པོ། (59) དབྱར་ཁ། (75) བརྟན་འཛིན།

(12) ཆམ་པ། (28) བཟུ་བཞི། (44) ཞེམ་ཆི། (60) བཅོ་ལྔ། (76) གནངས་ཉིན།

(13) སྐ་མཐོ། (29) ཤང་པ། (45) གནམ་གྲུ། (61) ཤང་འཚོར། (77) ཆབ་མདོ།

(14) ལྟ་བརྒྱ། (30) སུམ་བརྒྱ། (46) ཁམས་པ། (62) སྤྲ་སེ། (78) གཉེན་སྟོན།

(15) ཚོང་ཁང་། (31) ལྷ་མོ། (47) གློག་བརྙན། (63) སྐུ་མཛོད། (79) ལྷ་ཁང་།

(16) བཅུན་མ། (32) བློ་བྱང་། (48) སྟོ་ཚལ། (64) སྐ་གདན། (80) མཆོད་རྟེན།

4.5.2 Pronunciation Drill (II): words with HH-HL surface tonal pattern

(1) སྐུ་གཟུགས། (7) ཕྱག་ལས། (13) སྡང་དག (19) ཚེ་རིང་། (25) སློབ་གྲྭས།
(2) ལྷན་རྒྱས། (8) ཕྱི་ལོགས། (14) ཞ་རབ (20) ཤ་འབྲས། (26) བསོད་ནམས།
(3) ཆེ་ལོས། (9) ཆུ་ཚོད། (15) ཕྱི་ལོགས། (21) ཕྱག་ལས། (27) དབང་འདུས།
(4) མངའ་རིས། (10) ཞར་ངོས། (16) ཞང་གྲངས། (22) རྐུབ་ཀུག (28) གཅེན་སྤྲིག
(5) ཞ་ཅག (11) བསམ་ཡས། (17) ཤིང་ཏོག (23) ཆང་བཀུག (29) བཙུ་གཉིས།
(6) བཙུ་གཅིག (12) ཁ་བཏགས། (18) ཆང་གཞས། (24) ཚོང་འདུས། (30) གནམ་གཤིས།

4.5.3 Pronunciation Drill (III): words with LL-HH surface tonal pattern

(1) ཉིན་མོ། (11) བདེ་ཡོ། (21) གཡ་འདྲ། (31) རྡོ་རྗེ། (41) དགའ་བསུ།
(2) དགོང་མོ། (12) གཡེར། (22) དང་ཡོ། (32) སྤྲོལ་མ། (42) འབྲུག་མོ།
(3) བྱེལ་བ། (13) ད་ལྟ། (23) དགའ་ཡོ། (33) ལས་ཀ། (43) དྲུག་པ།
(4) དགའ་ཡོ། (14) ང་ཚོ། (24) བཞི་པ། (34) ཁོམ་པ། (44) དུས་ཡུན།
(5) གོགས་ཡོ། (15) ནོར་བུ། (25) བཞི་བཙུ། (35) བདུན་པ། (45) གཞོན་ནུ།
(6) བཟོ་པ། (16) ཞིང་པ། (26) རྒྱ་བ། (36) བརྒྱད་པ། (46) དགུ་པ།
(7) གཞུང་ལམ། (17) རྒྱ་མ། (27) ཞེམ་ཡོ། (37) འཛོམ་བྱ། (47) ཉིད་ཁྲི།
(8) ལུག་ཤ། (18) ཞབས་ཞུ། (28) དགུན་ཁ། (38) ནང་མི། (48) འཚོ་བ།
(9) འབྲོག་ཁྲལ། (19) འགྱུར་བ། (29) གོང་ཚོ། (39) དགོན་པ། (49) རྒྱ་མཚོ།
(10) ནག་རྫ། (20) མགྲོན་ཡོ། (30) རྒྱལ་རྩེ། (40) གྲྭ་པ། (50) རི་མོ།

4.5.4 Pronunciation Drill (IV): (words with LL-HL surface tonal pattern)

(1) ཀ་ནས། (11) བདེ་སྐྱིད། (21) ངོ་སྤྲོད། (31) རང་ཉིད། (41) བཞེས་རག
(2) ངོ་ཤེས། (12) རྒྱ་ནག (22) ནམ་ལངས། (32) ཀ་ཚོད། (42) གོད་ཁོག

(3) ལས་རོགས། (13) ལས་ལྟངས། (23) བདེ་ལེགས། (33) རིང་ལོས། (43) ལོག་སྒེབས།
(4) དུས་ཚོད། (14) ཕིག་སྐོགས། (24) གཱ་དུས། (34) སྐོ་འགྲམ། (44) དགའ་རོགས།
(5) རྒྱ་ཆེས། (15) ཡག་ཞོས། (25) འདི་ནས། (35) བྱང་ངོས། (45) མདུན་ཕྱོགས།
(6) ལག་རྟགས། (16) ལམ་ཐག (26) བོད་ལྗོངས། (36) སྒེ་རག (46) དྲོད་ཚད།
(7) འགའ་ཞིག (17) རྒྱ་ཁོག (27) གོང་ཁོག (37) ལོ་ཏོག (47) འབྲས་སྦུངས།
(8) སྐྱེད་ལོག (18) རྩོག་ཁྲེས། (28) ལོ་རྒྱུས། (38) ཞོག་ཁོག (48) གོང་གསེབ།
(9) ལུས་དྲོད། (19) ལྷེ་མིག (29) གྱང་གསེང་། (39) ལ་ཕུག (49) བདེ་འཇགས།
(10) རིག་གནས། (20) ལྷེབས་རིས། (30) ལོ་ལེགས། (40) མི་རིགས། (50) འགོ་ཚུགས།

4.5.5 Pronunciation Drill (V): (words with LL-LH surface tonal pattern)

(1) ཉེ་ཚར། (9) མིག་དམར། (17) མགོན་པོ། (25) ཉིན་གྱང་། (33) ལུགས་སྲོལ།
(2) སྒོལ་དཀར། (10) དགེ་རྒན། (18) གཟིམ་ཁང་། (26) དེ་རིང་། (34) གྲང་ངར།
(3) ཉལ་ཁང་། (11) བར་སྐོར། (19) ཞལ་དཀར། (27) རྒྱ་མཚན། (35) དགའ་ལྡན།
(4) བོད་སྐད། (12) ཟ་ཁང་། (20) རྒྱ་གར། (28) གདུང་རྟེན། (36) ཞོ་སྐྱེན།
(5) མགོན་ཁང་། (13) ལམ་སེང་། (21) འདུ་ཁང་། (29) ལོ་ལྟར། (37) སྒྲ་གྱར།
(6) བོད་ལྗལ། (14) འོང་སྐོར། (22) མར་ཟན། (30) ཞིང་ལྗལ། (38) ལུང་ཤྲུར།
(7) ན་ཞིང་། (15) ནམ་རྒྱུན། (23) དུས་ཚེན། (31) རྒྱལ་སྐྱེན། (39) མཇལ་དར།
(8) ཉིས་སྐྱེང་། (16) རྩོ་ཕུང་། (24) དོ་སྐྱང་། (32) ཞེད་སྐྱང་། (40) གོམས་སྲོལ།

4.5.6 Pronunciation Drill (VI): phrasal and irregular pronunciation

(1) རྐན་ལགས། (7) གཟའ་ཉི་མ། (13) ངའི་ནང་། (19) སྤྱོ་བཟང་།
(2) པྱ་ལགས། (8) ལོ་བརྒྱད། (14) མགོ་ན། (20) གཟུགས་པོ།
(3) ཐུགས་རྗེ་ཆེ། (9) བཞུགས་འདུག (15) ཀ་གོ། (21) གངས་འབབ།
(4) སྐྱིང་རྗེ་པོ། (10) མ་བྱུང་ང་། (16) ཡག་པོ། (22) ཧ་བསྲུབས་མ།

(5) བརྩེད་གནང་། (11) མཛལ་ཡོང་། (17) ཡོང་ང་། (23) ཞེ་དགས།

(6) གཟའ་ཟླ་བ། (12) ཐག་རིང་པོ། (18) ཤ་འབྲས། (24) བཞུགས་གདན་འཛགས།

4.5.7 Oral Spelling (I): spell out the syllables

(1) གོགས་པོ། (5) རིག་གནས། (9) འཛམ་གླིང་། (13) ནང་ལས།

(2) སུམ་རྟགས། (6) སྟོད་སྨད། (10) ཉིས་སྟོང་། (14) གནམ་གྲུ།

(3) དཀར་ཡོལ། (7) བརྟག་དཔྱད། (11) མགོན་ཁང་། (15) ཨང་གངས།

(4) གློག་བརྙན། (8) བོད་ཡིངས། (12) བསམ་བློ། (16) སེམས་ཁྲལ།